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# Major PAR fields

IEEE Multi-Gigabit Optical Automotive  
Ethernet Study Group

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# PAR item 2.1 – Title

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2.1 Project title: Standard for Ethernet Amendment:  
Physical Layer Specifications and Management Parameters for  
Multi-Gigabit Optical ~~and Hybrid (Optical/Electrical)~~  
Automotive Ethernet

Help text: The title of the base standard is uneditable. Please enter the amendment title in the text box. The title should be sufficiently unambiguous, understandable by a NesCom member not from the society that submitted the PAR. All acronyms shall be spelled out in the title.

# PAR item 4.2 and 4.3 Project dates

## 4.2 Expected Date of submission of draft to the IEEE-SA for Initial Standards Association

Ballot: **07/21**

Help text: Additional communication and input from other organizations or other IEEE Standards Sponsors should be encouraged through participation in the working group or the invitation pool prior to Sponsor Ballot.

## 4.3 Projected Completion Date for Submittal to RevCom:

**05/22**

Help text: Enter the date the draft standard is planned to be submitted to RevCom for processing (not to exceed four years from the date of PAR submission). It is suggested to allow at least six months after Initial Sponsor Ballot for the ballot process. Cutoff dates for submitting draft standards to RevCom are generally in February, May, August, and October. Check the appropriate calendars for the specific dates as the draft matures. Use a best guess estimate for the PAR.

## 5.2A Scope of the complete standard:

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This standard defines Ethernet local area, access and metropolitan area networks. Ethernet is specified at selected speeds of operation; and uses a common media access control (MAC) specification and management information base (MIB). The Carrier Sense Multiple Access with Collision Detection (CSMA/CD) MAC protocol specifies shared medium (half duplex) operation, as well as full duplex operation. Speed specific Media Independent Interfaces (MIIs) provide an architectural and optional implementation interface to selected Physical Layer entities (PHY). The Physical Layer encodes frames for transmission and decodes received frames with the modulation specified for the speed of operation, transmission medium and supported link length. Other specified capabilities include: control and management protocols, and the provision of power over selected twisted pair PHY types.

Help text: If this Amendment will change the scope statement of the complete document (base + Amendment), it can be edited and should be explained in the Additional Explanatory Notes field at the end of the PAR form. If this Amendment will not change the scope statement of the complete document the pre-populated text should be left as is.

Note: The above IEEE Std 802.3 scope was written broadly, so that amendments should not need to modify the scope.

## PAR item 5.2B – Project scope

5.2B Scope of the Project: Specify additions to and appropriate modifications of IEEE Std 802.3 to add Physical Layer (PHY) specifications and management parameters for multi-gigabit automotive Ethernet. ~~Specifications include both symmetrical and asymmetrical data rates using optical~~ *or hybrid (optical/electrical)* media for application in the automotive environment.

Help text: State what the Amendment is changing or adding.

# Other PAR project scopes

- P802.3ch -- Specify additions to and appropriate modifications of IEEE Std 802.3 to add greater than 1 Gb/s Physical Layer (PHY) specifications and management parameters for media and operating conditions for applications in the automotive environment.
- P802.3cg -- Specify additions to and appropriate modifications of IEEE Std 802.3 to add 10 Mb/s Physical Layer (PHY) specifications and management parameters for operation, and associated optional provision of power, using a single balanced conductor.

# PAR item 5.3 – Project contingency

5.3 Is the completion of this standard contingent upon the completion of another standard (Yes or No)?

No.

If yes, please explain below:

Help text: Your explanation should include how the standard is dependent upon the completion of another standard. Also, if applicable, why a PAR request is being submitted if the standard currently under development is not yet complete. The title and number of the standard which this project is contingent upon shall be included in the explanation.

## PAR item 5.4 – Project purpose

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5.4 Will the completed document (base + amendment) contain a purpose clause:

Yes  No

Note: IEEE Std 802.3 does not contain a Purpose Clause.

# PAR item 5.5 – Project need

## 5.5 Need for the Project:

Applications in automotive industries have begun the transition of legacy automotive networks to Ethernet to support Advanced Driver Assist Systems. This has generated a need for data rates greater than 1 Gb/s in the automotive environment. Optical fiber has been used in automotive applications both for Ethernet and other protocols. This project will complement other 802.3 projects working on specifications for electrical media operation at rates greater than 1 Gb/s in the automotive environment.

The number of cameras in vehicles is increasing as is the camera data rate with movement to higher resolution video. Optical data links are applicable to both the vehicle network backbone as well as connection of selected devices where location or other factors favor using an optical link.

~~The number of cameras in vehicles is increasing as is the camera data rate with movement to higher resolution video. This increased video rate exacerbates the asymmetric data rate properties of the link. Power saving is possible with asymmetric operation. Similarly, some device connection will benefit from using a hybrid link, where electrical media can be used for provision of power on the lower data rate side of the link.~~

Help text: The need for the project details the specific problem that the standard will resolve and the benefit that users will gain by the publication of the standard. The need statement should be brief, no longer than a few sentences.

## PAR item 5.6 – Stakeholders

5.6 Stakeholders for the Standard: End-users, vendors, system integrators, and providers of systems and components (e.g., sensors, actuators, instruments, controllers, network infrastructure, user interfaces, and servers) for automotive applications.

Help text: The stakeholders (e.g., telecom, medical, environmental) for the standard consist of any parties that have an interest in or may be impacted by the development of the standard.

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# Thank You

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