IEEE 802.3 Ethernet Working Group
Liaison Communication

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From:	David Law	Chair, IEEE 802.3 Ethernet Working Group
Subject:	Update – "802.3 Ethernet for AI" Assessment – "Fiber for AI"	
Approval	Agreed at IEEE 802.3 Plenary meeting, Bangkok, Thailand, 13 November 2025	

Dear Colleagues,

We wish to provide a status update regarding the IEEE 802.3 NEA "Ethernet for AI" (E4AI) Assessment. This effort has focused on gathering information related to AI networks,

[1] This document solely represents the views of the IEEE 802.3 Working Group and does not necessarily represent a position of the IEEE, the IEEE Standards Association, or IEEE 802.

performance requirements, market potential, and exploring the technical feasibility of 400 Gb/s electrical and optical signaling for different Ethernet interconnects. For your reference, all meeting materials for the IEEE 802.3 NEA E4AI Assessment are available at https://www.ieee802.org/3/ad_hoc/E4AI/public/index.html.

At the IEEE 802.3 November 2025 Plenary, the IEEE 802.3 NEA E4AI Assessment reported that two distinctive, but related efforts, have emerged in its findings: [1] 400 Gb/s electrical and optical signaling development targeting 400 Gb/s, 800 Gb/s, and 1.6 Tb/s Ethernet, and [2] Ethernet solutions targeting 3.2 Tb/s Ethernet and greater. As noted, the two efforts are related, but the priority would be on the development of 400 Gb/s electrical and optical signaling, as it would be a building block for the development of 3.2 Tb/s Ethernet or greater. See https://www.ieee802.org/3/minutes/nov25/1125_NEA_open_report.pdf.

Going forward, in addition to the scope outlined above, the IEEE 802.3 NEA E4AI activity will be used for consensus building on future “Call-for-Interest” (CFI) presentations to address these two topics. Please note that a CFI, if approved, results in the formation of a Study Group, which is then tasked with defining the future project.

A request was submitted for a CFI to form a study group on a 400 Gb/s per-lane Signaling Ethernet project after the November 2025 plenary meeting. The CFI will be held during the March 2026 IEEE 802 Plenary Session held from 9 to 13 March 2026 in Vancouver, BC, Canada. Please see https://www.ieee802.org/3/cfi/request_0326_1.html for further information.

The IEEE P802.3dj Task Force is currently defining 200 Gb/s optical signaling. As part of this development effort, IEEE worked with ITU-T on the analysis of statistical chromatic dispersion coefficients in a link composed of 1 to 16 cable pieces. ITU-T included these findings in its recent revised Recommendation G.652.

This work proved important for further refining 200 Gb/s optical signaling and highlighted the need for IEEE 802.3 to explore the future of fiber development, especially given the new efforts noted above.

The IEEE 802.3 NEA “Ethernet for AI” Assessment is planning a series of meetings to host forums to explore the future of “Fiber for AI”. The first forum will be conducted as an electronic meeting for late February 2026 and will focus on fiber suitable for 400 Gb/s transmission. Other forums could address other fiber-related developments with regard to AI that could be of importance to the IEEE 802.3 community, such as multicore fiber (MCF), hollow-core fiber (HCF), high-density fiber interconnect, and next-generation multimode fiber (MMF). Meetings can be scheduled as speakers are identified.

Additionally, there is a joint IEEE 802 / ITU-T workshop that will be held in Montreal, QC, Canada, on the weekend 11/12 July 2026. This event could be used to address fiber suitable for 3.2 Tb/s Ethernet or greater, as well as other AI fiber network needs.

IEEE 802.3 would like to extend an invitation to participants of IEC and ITU-T to join the IEEE 802.3 community, as it explores the future of fiber in enabling 400 Gb/s signaling and beyond. Interested individuals are encouraged to sign up for the IEEE 802.3 E4AI Reflector. To subscribe to the IEEE 802.3 NEA “Ethernet for AI” assessment, please see https://www.ieee802.org/3/ad_hoc/E4AI/reflector.html

Sincerely,
David Law
Chair, IEEE 802.3 Ethernet Working Group