

# OIF Hot Topic Fact Sheet – Flex Ethernet



**About OIF's Flex Ethernet (FlexE) project:** FlexE is a technology for extending standard Ethernet PHYs to add support for bonding, sub-rating and channelization and also provides support for side-band message channels and time synchronization. The FlexE 2.0 Implementation agreement supports homogeneous collections of 100GbE, 200GbE, and 400GbE PHYs.

**FlexE 2.1:** OIF continues to lead in FlexE aggregation architectures through its newest FlexE 2.1 project for FlexE over 50GbE PHY applications, an extension to its [FlexE 2.0 Implementation Agreement](#) (IA). This version extends the FlexE 2.0 IA to add support for forming FlexE Groups from 50GBASE-R PHYs in addition to the existing support for 100GBASE-R, 200GBASE-R and 400GBASE-R PHYs. This support is important in use cases that include the 5G backhaul network.

**Why is the FlexE project important for the market?** Modern Ethernet networks can benefit from a richer set of features than the base Ethernet technology provides. Support for network slicing in 5G networks, smoothly interfacing to variable-rate long-haul optics, and the ability to bond together multiple Ethernet PHYs to make a connections that look like Ethernet, but run at unique rates, are all features that FlexE provides.

**Relevance to (or in association with) other industry organization activities:** IEEE 802.3 provides the base Ethernet specs.

**Date of OIF project start:** January 2015

**Status of project:** FlexE recently completed its first minor revision of its second major release.

**Demo/showcase highlights:** OIF's FlexE work was demonstrated as part of the [OIF 2019 Physical and Link Layer Interoperability Demo at OFC 2019](#). Realistic multi-vendor deployment scenarios, client rate reconfiguration, and in-band messaging features were demonstrated on a network built from a variety of Ethernet optics and interconnecting the OIF and Ethernet Alliance booths.

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**More information:** <https://www.oiforum.com/technical-work/hot-topics/flex-ethernet-flexe-2/>

**Recent project update PPT presentations:** [NGON 2019](#) – May 21, 2019

**Recent articles about FlexE\*:**

*Lightwave:* <https://www.lightwaveonline.com/optical-tech/article/16667789/oif-ethernet-alliance-pair-on-flexe-demonstration-at-ofc-2019?eid=383971651&bid=2392146>

*Lightwave:* <https://www.lightwaveonline.com/optical-tech/article/16675970/oif-begins-flexe-21-project-holds-leadership-elections>

*\* articles do not represent OIF's views other than where OIF spokespersons are specifically quoted*

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