



**National Marine
Electronics Association**

OneNet Summary for NMEA Board of Directors

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- NMEA OneNet is a network interface standard based upon the IEEE 802.3 Ethernet Standard
- OneNet is unique because it provides transport of standard NMEA 2000 (NMEA Network) messages using Standard Ethernet protocol in a common non-proprietary format
 - Manufacturer members of NMEA started to put NMEA Network messages on their proprietary Ethernet networks, however these disparate implementations offered no interoperability between different manufacturers' equipment
 - OneNet does not replace NMEA 2000
 - OneNet complements and interoperates with an NMEA 2000 Network
 - OneNet utilizes NMEA's published standardized Gateway rules between NMEA 2000 and OneNet
 - OneNet and NMEA 2000 share the common NMEA Network message database
- An NMEA 2000 network has a capacity for 50 devices, whereas a OneNet Network has capacity for more than 65,000 devices which will meet future integration demands for many more interconnections and bandwidth
- OneNet supports high bandwidth applications such as video, using standard Ethernet video protocols. NMEA 2000 does not support video due to bandwidth limitations.
- OneNet data transfer speed is much faster than NMEA 2000
 - OneNet data rate is 100 Megabits to 10 Gigabits (from 400 to 40,000 times faster than NMEA 2000)
- OneNet enables more power on the Network. A minimum of 15.4 Watts per device, utilizing standard IEEE Power over Ethernet (PoE)
- OneNet is scalable and future proof
 - OneNet will continue to advance with the evolution of Ethernet based applications
 - OneNet will evolve with the onset of higher speed physical cables such as fiber optics
 - OneNet supports the most current networking innovations by Internet architects
- The OneNet standard references international networking standards known as RFC(s)
- OneNet proposes standardized cables and connectors for the marine environment
- OneNet has support from the USCG and from the Canadian Coast Guard
- OneNet is supported by RTCM
- IEC have not yet declared a position on OneNet but have expressed interest
- The OneNet development committee comprises 25 manufacturer members of NMEA. A list can be provided on request.