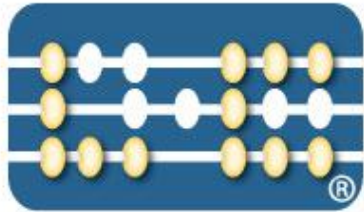


Are Standardized Ethernet Optics Obsolete? Analyst Data



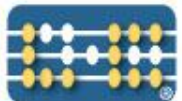
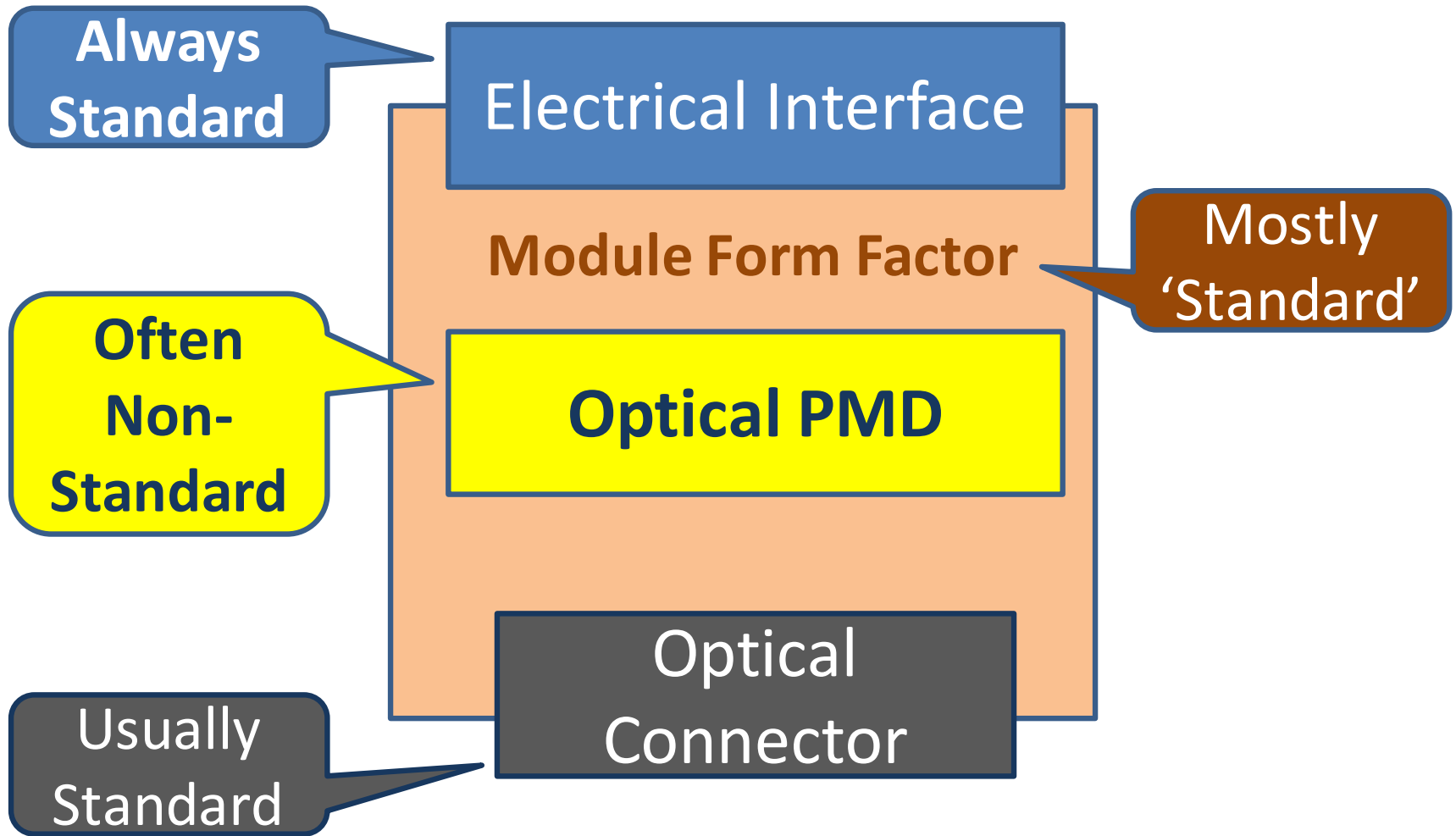
LIGHTCOUNTING
Market Research

LightCounting
Market Research

Ethernet Alliance TEF

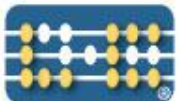
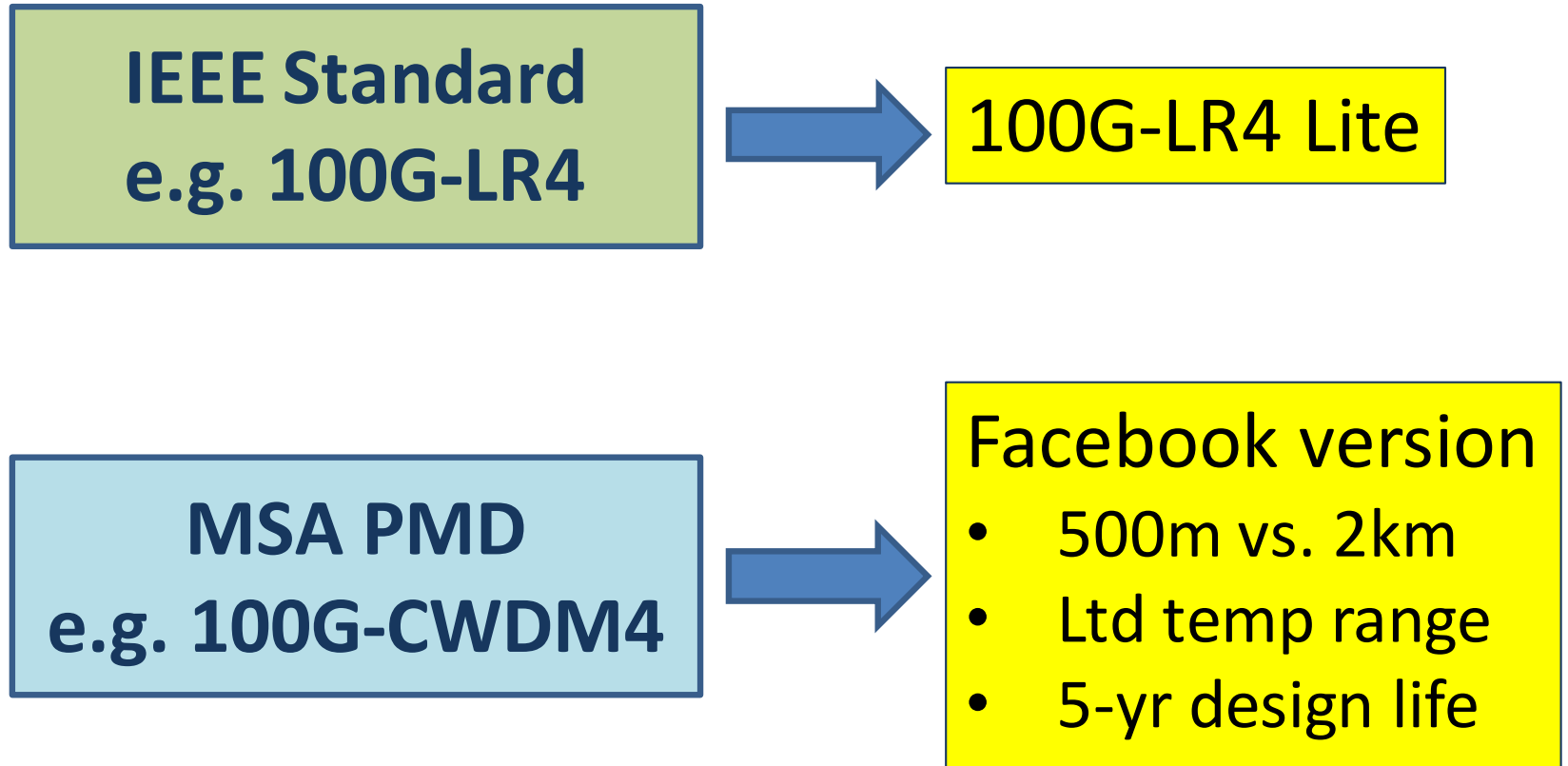
Dale Murray • September 29, 2016

Four Areas of Standardization

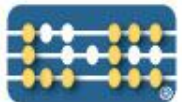
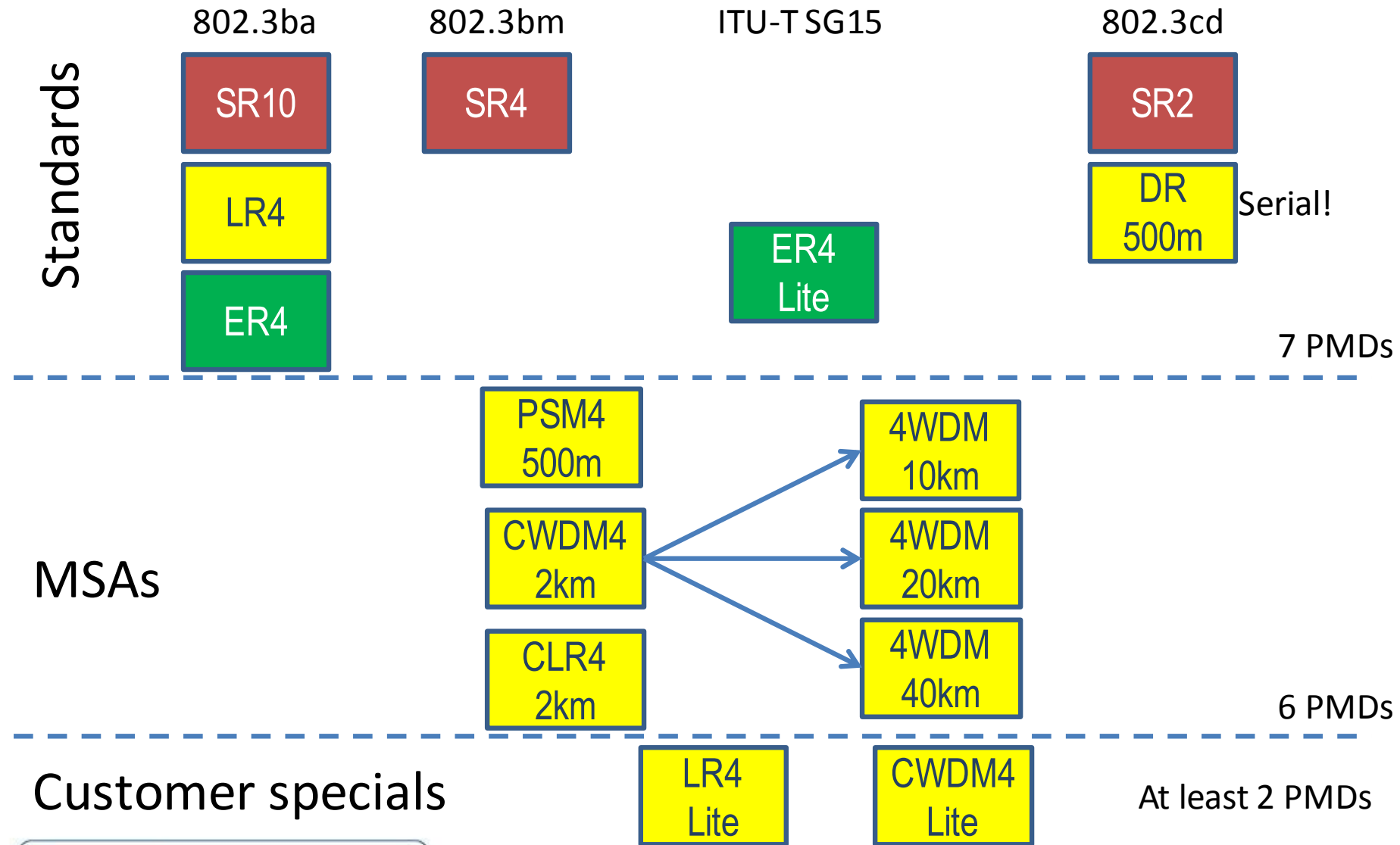


Customer Specials: Very Common

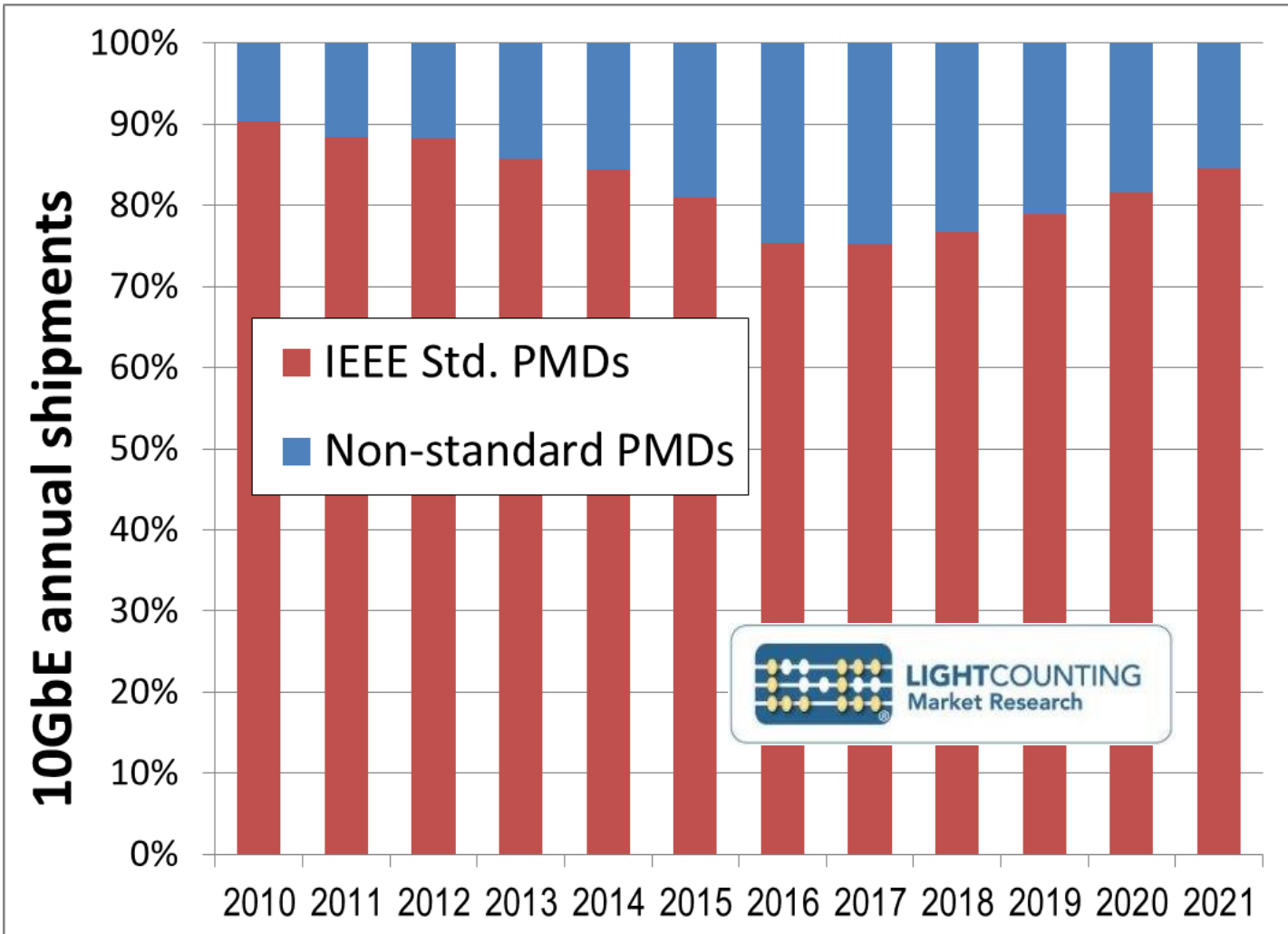
Hyperscale buyers drive individual solutions, usually to drive lower cost



100G Optical PMDs: Do we need them all?



10GbE: IEEE Standard vs. Non-IEEE Shipments



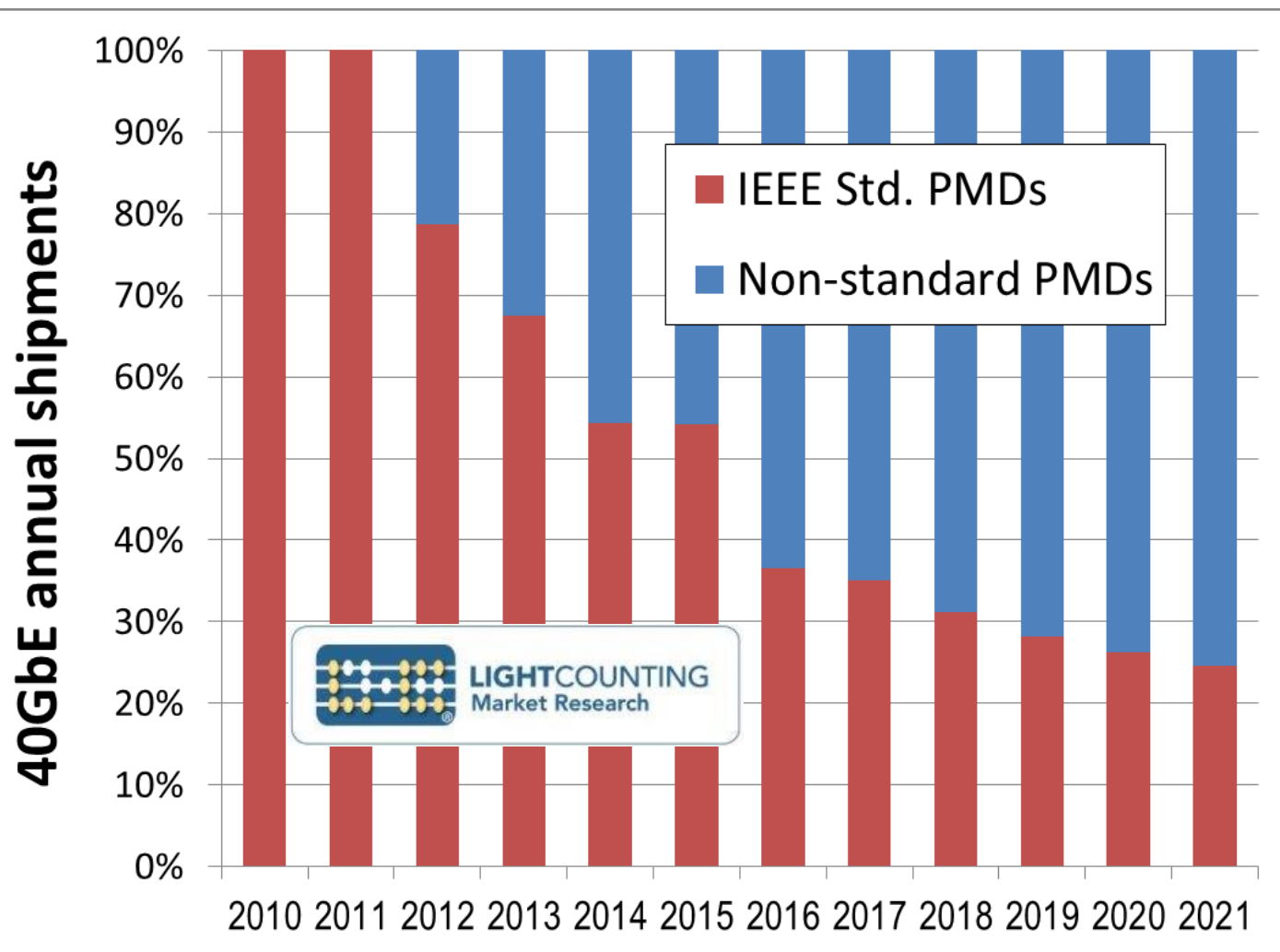
IEEE Standard PMDs

- 10G-SR
- 10G-LR
- 10G-LRM
- 10G-ER

Non-IEEE PMDs

- 10G-SRsubspec
- 10G-LRsubspec

40GbE: IEEE Standard vs. Non-IEEE Shipments

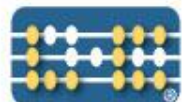


IEEE Standard PMDs

- 40G-SR4
- 40G-FR
- 40G-LR4

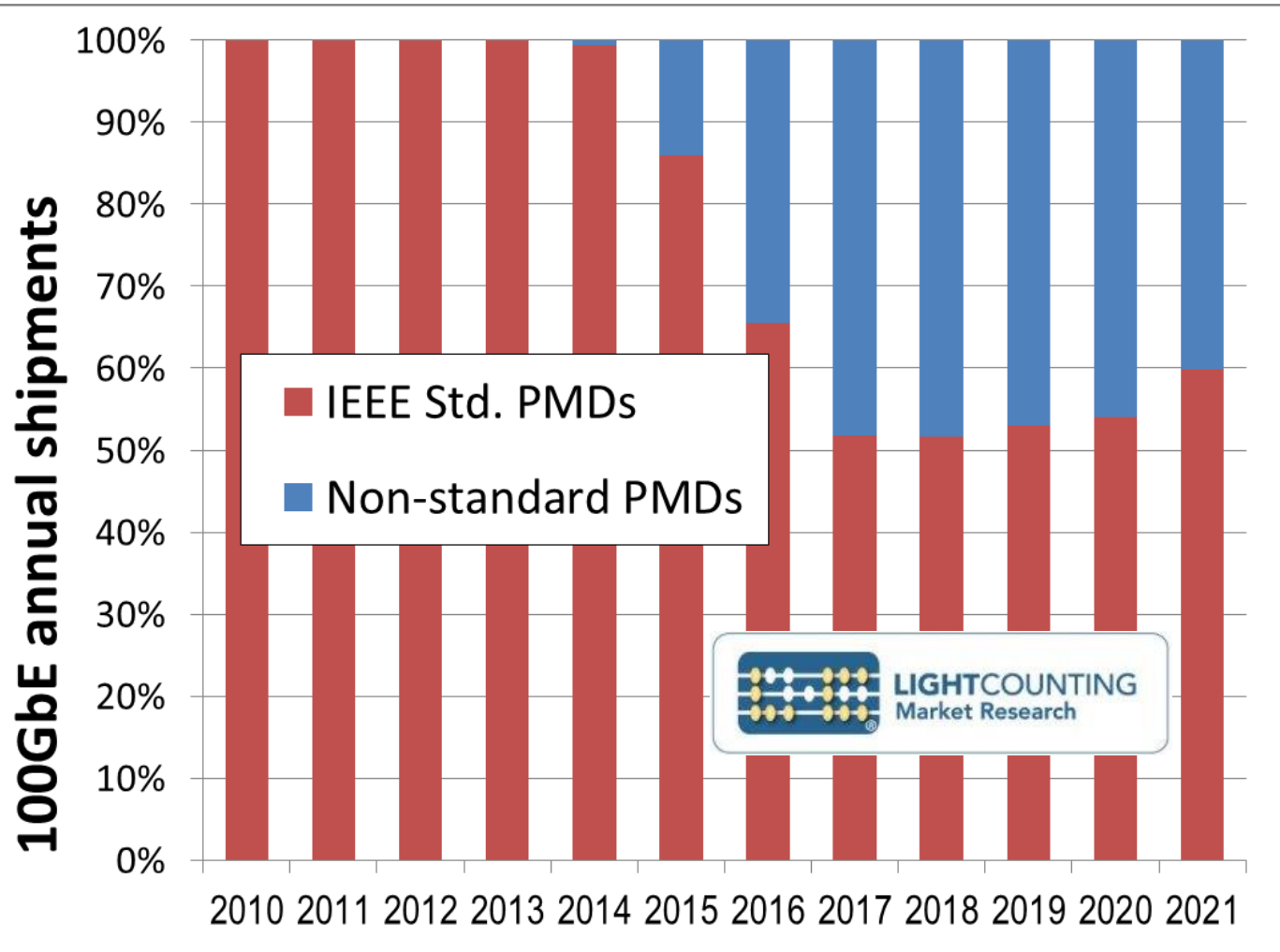
Non-IEEE PMDs

- 40G-Bidi/SWDM
- 40G-eSR4
- 40G-PSM4
- 40G-LR4 subspec



LIGHTCOUNTING
Market Research

100GbE: IEEE Standard vs. Non-IEEE Shipments



IEEE Standard PMDs

- 100G-SR10
- 100G-SR4
- 100G-LR4
- 100G-ER4
- 100G-SR2
- 100G-DR

Non-IEEE PMDs

- 100G-PSM4
- 100G-CWDM4
- 100G-CLR4
- 100G-LR4 Lite
- 100G-CWDM4 Lite
- 100G-eCWDM4
- 100G-eLR4
- 100G-ER4 Lite

One Result of Fragmentation

Net profit margin 5-year sales-weighted average

