



External Optical Modulators Used in Commercial Communication Transmission Links Global Market Forecast and Analysis (2010-2015)

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This is the ElectroniCast global market forecast of consumption of external optical modulators, which are deployed/used by Telecommunication and related commercial service providers in transmission links.

Optical modulators encode information onto optical transmissions by converting electronic data signals to optical pulses. The years of coverage, in this report, are: 2010-2015. This report provides the modulator market forecasts in terms of Quantity (number of units), Average Selling Prices per unit and Consumption Values.

The fiber optics industry is now observing an increase in the consumption of the transmitter/receiver optical communication links that facilitate a strong environment for the use of modulators. This report presents the forecast data for the following regions, plus a Global summary:

- Americas (North America, Central and South America)
- Europe (Western & Eastern Europe, plus Middle Eastern countries)
- Asia Pacific (APAC)

ElectroniCast independent trend analysis points out that there will be 100Gbps links deployed within the timeframe of this analysis (2010-2015); however, mid- to late in the forecast period. Coherent detection is the trend that operators are accepting, relative to deployment of 100Gbps links and beyond.

America held a slight relative market share lead in global *consumption value* of optical modulators in 2010, with about 42 percent relative market share in telecommunication, Internet (ISP) and related commercial optical communication applications. The American region will increase slightly slower in terms of annual growth (2010-2015), therefore, is forecast to slip from the leadership role in 2015, giving away from the impressive build-out in the APAC region, led by China especially.

Modulators are a critical part of DWDM network infrastructures that are expanding to support increasing bandwidth requirements. The 2010-2015 forecast period will include technology advances and lower cost options for optical modulators in response to the need for more affordable optical transmission links. Modulators used in 40-Gbit/sec links for higher-speed networks are expected to demonstrate dramatic growth. We also expect America to take the (consumption value) lead in the deployment of even faster 100G links during the forecast period. Worldwide consumption value (all categories) is forecast to increase at a pace of 24 percent per year over the 2010-2015 timeline.

Consumption volume (quantity/unit) trends of optical modulators in commercial communication network applications show that the APAC will maintain the lead in volume consumption. It is important to note that the APAC region tends to report a lower average selling price for their modulator consumption.

During the forecast period, bandwidth expansion demands will push for new network links, incorporating Metro Core, Metro/Access, Long Haul, WDM, OADM and other system-based deployments.

There are several types of modulators, discussed in this study report. However, current optical transmission systems, there are primarily two types of external modulators used extensively: “Electro-Optic” and “Electro-Absorption.” Modulators either directly modulate the optical beam as it is generated at the optical source or externally modulate the optical beam after it has been generated (this study covers externally modulation).

In this report, the optical modulator market is presented in segments:

- Electro-Absorption (EA) Type
- Electro-Optical (E-O) Type

The consumption of specific types of optical modulators used in fiber optic communication links is determined by the customer’s specifications. These specifications often lead to preferences of optical modulator technology type (EA or EO). Also, based on customer requirements of optical transmission bit-rates and the research and development (R&D) time allotted to each technology type, ElectroniCast has forecast consumption trends by transfer data rates. The data presented in this report details optical modulator use by the following:

- 2.5-Gbps
- 10-Gbps
- 40-Gbps
- “Other” data transfer rates

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<u>Excel – Data Base Worksheets: Complete Market Forecast (2010-2015)</u>		
	Global	
	America	
	EMEA	
	APAC	

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