

Global Fiber Bragg Grating (FBG) Market Professional Survey Report 2018

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Abstracts

This report studies the global Fiber Bragg Grating (FBG) market status and forecast, categorizes the global Fiber Bragg Grating (FBG) market size (value & volume) by manufacturers, type, application, and region. This report focuses on the top manufacturers in North America, Europe, Japan, China, India, Southeast Asia and other regions (Central & South America, and Middle East & Africa).

A fiber Bragg grating (FBG) is a type of distributed Bragg reflector constructed in a short segment of optical fiber that reflects particular wavelengths of light and transmits all others. This is achieved by adding a periodic variation to the refractive index of the fiber core, which generates a wavelength specific dielectric mirror. An FBG is an invisible reflector inside the core of the fiber that is set to a specific wavelength of light. When the fiber where the FBG is located is exposed to strain or temperature, the FBG's "center wavelength" shifts to a higher or lower wavelength. The direction and magnitude of the shift is proportional to the change in strain or temperature.

A fiber Bragg grating can therefore be used as an inline optical filter to block certain wavelengths, or as a wavelength-specific reflector. Fiber Bragg Gratings are made by laterally exposing the core of a single-mode fiber to a periodic pattern of intense ultraviolet light. The exposure produces a permanent increase in the refractive index of the fiber's core, creating a fixed index modulation according to the exposure pattern. This fixed index modulation is called a grating. At each periodic refraction change a small amount of light is reflected. All the reflected light signals combine coherently to one large reflection at a particular wavelength when the grating period is approximately half the input light's wavelength. This is referred to as the Bragg condition, and the wavelength at which this reflection occurs is called the Bragg wavelength. In a FBG, the refractive index of the core is periodically modulated along the fiber's main axis. The period of the modulation ranges typically from a few hundred nanometers to a few microns. When light is launched into a FBG, it experiences a certain amount of



scattering at each grating plane. Most of the scattered light becomes more and more out-of-phase and eventually decays due to deconstructive interference. If the Bragg condition is satisfied for one of the colors of the input light, then a sharp reflected peak is observed in the backward direction with a center wavelength determined by the grating's parameters.

The industry is not very high concentration, the key brand include Micron Optics, Proximion AB, HBM FiberSensing, ITF Technologies Inc, FBGS Technologies GmbH, Technica, iXFiber, Smart Fibres Limited, fos4x, Advanced Optics Solutions GmbH, Wuhan Ligong Guangke, TeraXion, FBG Korea, GEOPTEX bvba(FOS&S), Alnair Labs Corporation and so on.

The global Fiber Bragg Grating (FBG) market segmentation on the basis of type includes Fiber Bragg Grating Filter, Fiber Bragg Grating Sensors and Others. Fiber Bragg Grating Sensors are dominating the market with about 75% share in 2016. Significant and lasting barriers make entry into this market difficult. These barriers include, but are not limited to: (i) product development costs; (ii) capital requirements; (iii) intellectual property rights; (iv) regulatory requirement; and (v) Transitions' unfair methods of competition.

Despite the presence of competition problems, due to the global recovery trend is clear, investors are still optimistic about this area, the future will still have more new investment enter the field. Even so, the market is intensely competitive. The study group recommends the new entrants just having money but without technical advantage and upstream and downstream support do not to enter into this field.

The global Fiber Bragg Grating (FBG) market is valued at 670 million US\$ in 2017 and will reach 3070 million US\$ by the end of 2025, growing at a CAGR of 24.3% during 2018-2025.

The major manufacturers covered in this report

Micron Optics

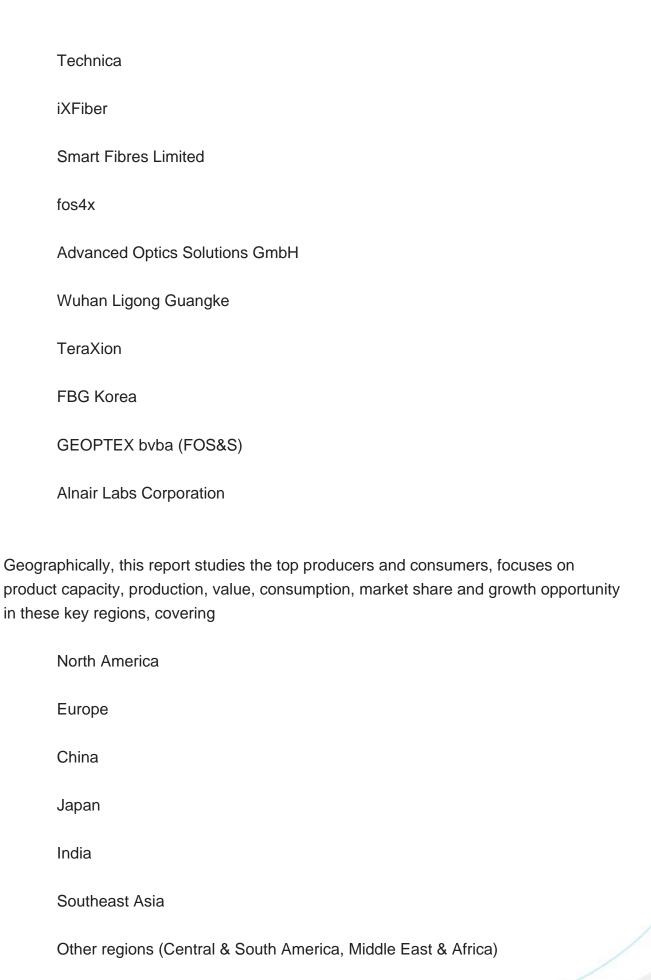
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HBM FiberSensing

ITF Technologies Inc

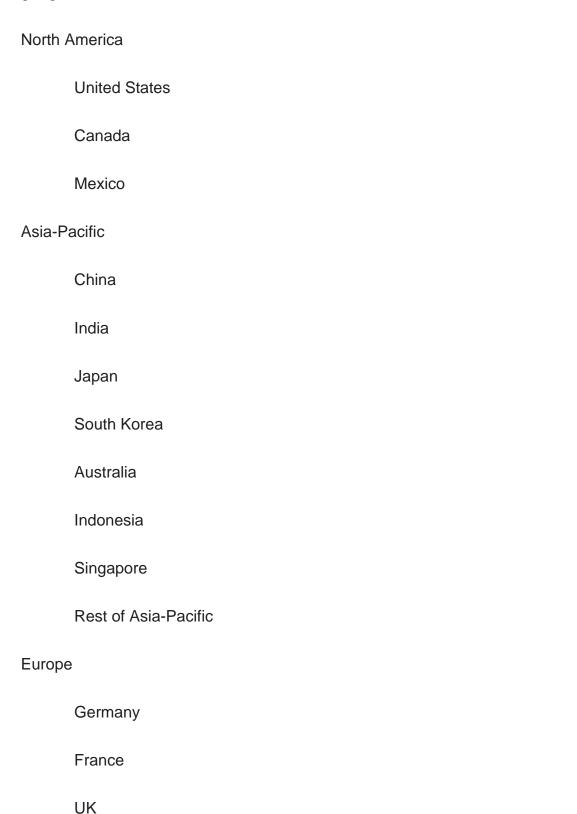
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We can also provide the customized separate regional or country-level reports, for the following regions:









Aerospace Applications

Energy industry

Transportation

Geo-Technical & Civil Engineering

Other

The study objectives of this report are:

To analyze and study the global Fiber Bragg Grating (FBG) capacity, production, value, consumption, status (2013-2017) and forecast (2018-2025);

Focuses on the key Fiber Bragg Grating (FBG) manufacturers, to study the capacity, production, value, market share and development plans in future.

Focuses on the global key manufacturers, to define, describe and analyze the market competition landscape, SWOT analysis.

To define, describe and forecast the market by type, application and region.

To analyze the global and key regions market potential and advantage, opportunity and challenge, restraints and risks.

To identify significant trends and factors driving or inhibiting the market growth.

To analyze the opportunities in the market for stakeholders by identifying the high growth segments.

To strategically analyze each submarket with respect to individual growth trend and their contribution to the market.

To analyze competitive developments such as expansions, agreements, new product launches, and acquisitions in the market.

To strategically profile the key players and comprehensively analyze their



growth strategies.

In this study, the years considered to estimate the market size of Fiber Bragg Grating (FBG) are as follows:

History Year: 2013-2017

Base Year: 2017

Estimated Year: 2018

Forecast Year 2018 to 2025

For the data information by region, company, type and application, 2017 is considered as the base year. Whenever data information was unavailable for the base year, the prior year has been considered.

Key Stakeholders
Fiber Bragg Grating (FBG) Manufacturers
Fiber Bragg Grating (FBG) Distributors/Traders/Wholesalers
Fiber Bragg Grating (FBG) Subcomponent Manufacturers
Industry Association
Downstream Vendors

Available Customizations

With the given market data, QYResearch offers customizations according to the company's specific needs. The following customization options are available for the report:

Regional and country-level analysis of the Fiber Bragg Grating (FBG) market, by end-use.

Detailed analysis and profiles of additional market players.



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