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Global YIG Single Crystal Film for Optics and Photonics Supply, Demand and Key Producers, 2026-2032

https://marketpublishers.com/r/G9D6378F8F4FEN.html
Date: February 2026
Pages: 109
Price: US$ 4,480.00 (Single User License)
ID: G9D6378F8F4FEN

Abstracts

The global YIG Single Crystal Film for Optics and Photonics market size is expected to reach $ 29.77 million by 2032, rising at a market growth of 6.3% CAGR during the forecast period (2026-2032).

In 2024, global YIG Single Crystal Film for Optics and Photonics production reached approximately 950,000 square meters, with an average global market price of around US$ 20 per Sqm. In 2024, the global 's total production capacity of YIG Single Crystal Film for Optics and Photonics reached 1.18 million square meters.The industry average gross profit margin of this product reached 36%.YIG single-crystal thin films have wide applications in optics and photonics, primarily due to their unique magneto-optical effect, which allows them to modulate the propagation characteristics of light under the influence of an external magnetic field. YIG films are widely used in optical isolators, optical modulators, tunable filters, and other devices, enabling unidirectional light transmission, frequency modulation, and intensity modulation. Furthermore, YIG films can be applied in high-tech fields such as lasers, quantum communication, and precision optical instruments, with their importance increasing, particularly in high-speed optical communication and quantum information processing. Their superior magnetism and transparency give them significant advantages in optical devices, making them one of the important materials for future photonics research.

The YIG Single Crystal Film for Optics and Photonics supply chain covers multiple stages from raw materials and production equipment to end applications. First, raw materials include metal oxides such as yttrium and iron, which are synthesized and purified to obtain high-quality YIG powder. Second, the preparation process involves high-precision thin film growth technologies, such as molecular beam epitaxy (MBE)

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and chemical vapor deposition (CVD). These technologies help to manufacture high-quality single-crystal thin films. Subsequently, YIG thin films are widely used in high-tech fields such as optical devices, microwave devices, spintronics, and quantum communication. Finally, the entire industry chain encompasses upstream raw material supply and manufacturing equipment, while downstream applications include photonics and quantum technologies such as optical communication, lasers, and sensors, forming a complete industrial ecosystem.

With the rapid development of photonics and quantum technologies, YIG Single Crystal Film for Optics and Photonics has a promising future in multiple fields. Applications such as optical isolators, tunable optics, and magneto-optical modulators are driving increasing demand in optical communication, laser systems, and quantum information processing. Furthermore, the potential of YIG thin films in spintronics, magnetic storage, and quantum computing presents new opportunities for its future development. Especially in the fields of quantum communication and quantum computing, YIG thin films are expected to become key materials, contributing to breakthroughs in quantum information technology. With further optimization of manufacturing processes and increasing application demands, the market for YIG thin films will continue to expand, and demand is expected to show strong growth in the coming years.

This report studies the global YIG Single Crystal Film for Optics and Photonics production, demand, key manufacturers, and key regions.

This report is a detailed and comprehensive analysis of the world market for YIG Single Crystal Film for Optics and Photonics and provides market size (US$ million) and Year-over-Year (YoY) Growth, considering 2025 as the base year. This report explores demand trends and competition, as well as details the characteristics of YIG Single Crystal Film for Optics and Photonics that contribute to its increasing demand across many markets.

Highlights and key features of the study
Global YIG Single Crystal Film for Optics and Photonics total production and demand, 2021-2032, (Sq m)
Global YIG Single Crystal Film for Optics and Photonics total production value, 2021-2032, (USD Million)
Global YIG Single Crystal Film for Optics and Photonics production by region & country, production, value, CAGR, 2021-2032, (USD Million) & (Sq m), (based on production site)
Global YIG Single Crystal Film for Optics and Photonics consumption by region &

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country, CAGR, 2021-2032 & (Sq m)
U.S. VS China: YIG Single Crystal Film for Optics and Photonics domestic production, consumption, key domestic manufacturers and share
Global YIG Single Crystal Film for Optics and Photonics production by manufacturer, production, price, value and market share 2021-2026, (USD Million) & (Sq m)
Global YIG Single Crystal Film for Optics and Photonics production by Type, production, value, CAGR, 2021-2032, (USD Million) & (Sq m)
Global YIG Single Crystal Film for Optics and Photonics production by Application, production, value, CAGR, 2021-2032, (USD Million) & (Sq m)

This report profiles key players in the global YIG Single Crystal Film for Optics and Photonics market based on the following parameters - company overview, production, value, price, gross margin, product portfolio, geographical presence, and key developments. Key companies covered as a part of this study include Matesy, MTI Corp, Granopt, Coherent, OXIDE, Anhui Crystro Crystal Materials Co., Ltd., Xiamen Powerway, Deltronic Crystal Industries, etc.

This report also provides key insights about market drivers, restraints, opportunities, new product launches or approvals.

Stakeholders would have ease in decision-making through various strategy matrices used in analyzing the World YIG Single Crystal Film for Optics and Photonics market

Detailed Segmentation:

Each section contains quantitative market data including market by value (US$ Millions), volume (production, consumption) & (Sq m) and average price (US$/Sq m) by manufacturer, by Type, and by Application. Data is given for the years 2021-2032 by year with 2025 as the base year, 2026 as the estimate year, and 2027-2032 as the forecast year.

Global YIG Single Crystal Film for Optics and Photonics Market, By Region:

United States

China

Europe

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Japan

South Korea

ASEAN

India

Rest of World

Global YIG Single Crystal Film for Optics and Photonics Market, Segmentation by Type:

4 micrometers

Global YIG Single Crystal Film for Optics and Photonics Market, Segmentation by Substrate Materials:

Single-crystal Substrate

Polycrystalline Substrate

Global YIG Single Crystal Film for Optics and Photonics Market, Segmentation by Magnetic Field Control Methods:

External Magnetic Field Adjustment

Spin Wave Adjustment

Global YIG Single Crystal Film for Optics and Photonics Market, Segmentation by Application:

Optical Isolators

Tunable Optics

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Lasers

Magneto-optic Modulators

Others

Companies Profiled:

Matesy

MTI Corp

Granopt

Coherent

OXIDE

Anhui Crystro Crystal Materials Co., Ltd.

Xiamen Powerway

Deltronic Crystal Industries

Key Questions Answered:

1. How big is the global YIG Single Crystal Film for Optics and Photonics market?
2. What is the demand of the global YIG Single Crystal Film for Optics and Photonics market?
3. What is the year over year growth of the global YIG Single Crystal Film for Optics and Photonics market?
4. What is the production and production value of the global YIG Single Crystal Film for Optics and Photonics market?
5. Who are the key producers in the global YIG Single Crystal Film for Optics and Photonics market?
6. What are the growth factors driving the market demand?

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