

Global Short Wave Infrared (SWIR) Market Analysis and Forecast 2024-2030

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Abstracts

Sensing in the shortwave infrared (SWIR) range (wavelengths from 0.9 to 1.7 microns) has only recently been made practical by the development of Indium Gallium Arsenide (InGaAs) sensors.

Short-wave infrared (SWIR) light is typically defined as light in the 0.9-1.72m wavelength range, but can also be classified from 0.7-2.52m. Since silicon sensors have an upper limit of approximately 1.02m, SWIR imaging requires unique optical and electronic components capable of performing in the specific SWIR range. Sensing in the shortwave infrared (SWIR) range (wavelengths from 0.9 to 1.7 microns) has only recently been made practical by the development of Indium Gallium Arsenide (InGaAs) sensors.

Unlike Mid-Wave Infrared (MWIR) and Long-Wave Infrared (LWIR) light, which is emitted from the object itself, SWIR is similar to visible light in that photons are reflected or absorbed by an object, providing the strong contrast needed for high resolution imaging. Ambient star light and background radiance (nightglow) are natural emitters of SWIR and provide excellent illumination for outdoor, nighttime imaging.

It is essential to use a lens that is designed, optimized, and coated for the SWIR wavelength range. Using a lens designed for the visible spectrum will result in lower resolution images and higher optical aberrations. Since SWIR wavelengths transmit through glass, lenses, and other optical components (optical filters, windows, etc.) designed for SWIR can be manufactured using the same techniques used for visible components, decreasing manufacturing cost and enabling the use of protective windows and filters within a system.



A large number of applications that are difficult or impossible to perform using visible light are possible using SWIR. When imaging in SWIR, water vapor, fog, and certain materials such as silicon are transparent. Additionally, colors that appear almost identical in the visible may be easily differentiated using SWIR.

SWIR imaging is used in a variety of applications including electronic board inspection, solar cell inspection, produce inspection, identifying and sorting, surveillance, anti-counterfeiting, process quality control, and much more. To understand the benefits of SWIR imaging, consider some visual examples of common, everyday products imaged with visible light and with SWIR.

According to APO Research, The global Short Wave Infrared (SWIR) market is projected to grow from US\$ million in 2024 to US\$ million by 2030, at a Compound Annual Growth Rate (CAGR) of % during the forecast period.

In the global Short Wave Infrared (SWIR) market, the key players are like Teledyne Technologies, Hamamatsu Photonics, Xenics, First Light, Fluxdata, etc. Top five players hold a share about 54%. In terms of consumption of Short Wave Infrared (SWIR), North America is the largest consumption market, with a share about 35%. In terms of product, SWIR Area Scan Camera is the largest segment, with a share about 75%. And in terms of application, the largest application is Industrial Application and Military and Defense, both with a share about 25%.

In terms of production side, this report researches the Short Wave Infrared (SWIR) production, growth rate, market share by manufacturers and by region (region level and country level), from 2019 to 2024, and forecast to 2030.

In terms of consumption side, this report focuses on the sales of Short Wave Infrared (SWIR) by region (region level and country level), by Company, by Type and by Application. from 2019 to 2024 and forecast to 2030.

This report presents an overview of global market for Short Wave Infrared (SWIR), capacity, output, revenue and price. Analyses of the global market trends, with historic market revenue or sales data for 2019 - 2023, estimates for 2024, and projections of CAGR through 2030.

This report researches the key producers of Short Wave Infrared (SWIR), also provides the consumption of main regions and countries. Of the upcoming market potential for Short Wave Infrared (SWIR), and key regions or countries of focus to forecast this



market into various segments and sub-segments. Country specific data and market value analysis for the U.S., Canada, Mexico, Brazil, China, Japan, South Korea, Southeast Asia, India, Germany, the U.K., Italy, Middle East, Africa, and Other Countries.

This report focuses on the Short Wave Infrared (SWIR) sales, revenue, market share and industry ranking of main manufacturers, data from 2019 to 2024. Identification of the major stakeholders in the global Short Wave Infrared (SWIR) market, and analysis of their competitive landscape and market positioning based on recent developments and segmental revenues. This report will help stakeholders to understand the competitive landscape and gain more insights and position their businesses and market strategies in a better way.

This report analyzes the segments data by Type and by Application, sales, revenue, and price, from 2019 to 2030. Evaluation and forecast the market size for Short Wave Infrared (SWIR) sales, projected growth trends, production technology, application and end-user industry.

Descriptive company profiles of the major global players, including FLIR Systems, Hamamatsu Photonics, Sensors Unlimited, Teledyne Technologies, Xenics, Allied Vision Technologies, Raptor Photonics, IRCameras and New Imaging Technologies, etc.

Short Wave Infrared (SWIR) segment by Company

FLIR	Systems
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Hamamatsu Photonics

Sensors Unlimited

Teledyne Technologies

Xenics

Allied Vision Technologies

Raptor Photonics



IRCameras		
New Imaging Technologies		
First Light		
GuoHui OPTO-electronic		
Infiniti Electro-Optics		
SWIR Vision Systems		
Photonic Science		
Short Wave Infrared (SWIR) segment by Type		
SWIR Area Scan Camera		
SWIR Line Scan Camera		
Short Wave Infrared (SWIR) segment by Application		
Industrial Application		
Military and Defense		
Scientific Research		
Others		
Short Wave Infrared (SWIR) segment by Region		
North America		
United States		



Canada
Europe
Germany
France
U.K.
Italy
Russia
Asia-Pacific
China
Japan
South Korea
India
Australia
China Taiwan
Indonesia
Thailand
Malaysia
Latin America
Mexico
D

Brazil



Argentina
Colombia
Middle East & Africa
Turkey
Saudi Arabia
UAE

Study Objectives

- 1. To analyze and research the global status and future forecast, involving, production, value, consumption, growth rate (CAGR), market share, historical and forecast.
- 2. To present the key manufacturers, capacity, production, revenue, market share, and Recent Developments.
- 3. To split the breakdown data by regions, type, manufacturers, and Application.
- 4. To analyze the global and key regions market potential and advantage, opportunity and challenge, restraints, and risks.
- 5. To identify significant trends, drivers, influence factors in global and regions.
- 6. To analyze competitive developments such as expansions, agreements, new product launches, and acquisitions in the market.

Reasons to Buy This Report

1. This report will help the readers to understand the competition within the industries and strategies for the competitive environment to enhance the potential profit. The report also focuses on the competitive landscape of the global Short Wave Infrared (SWIR) market, and introduces in detail the market share, industry ranking, competitor ecosystem, market performance, new product development, operation situation,



expansion, and acquisition. etc. of the main players, which helps the readers to identify the main competitors and deeply understand the competition pattern of the market.

- 2. This report will help stakeholders to understand the global industry status and trends of Short Wave Infrared (SWIR) and provides them with information on key market drivers, restraints, challenges, and opportunities.
- 3. This report will help stakeholders to understand competitors better and gain more insights to strengthen their position in their businesses. The competitive landscape section includes the market share and rank (in volume and value), competitor ecosystem, new product development, expansion, and acquisition.
- 4. This report stays updated with novel technology integration, features, and the latest developments in the market.
- 5. This report helps stakeholders to gain insights into which regions to target globally.
- 6. This report helps stakeholders to gain insights into the end-user perception concerning the adoption of Short Wave Infrared (SWIR).
- 7. This report helps stakeholders to identify some of the key players in the market and understand their valuable contribution.

Chapter Outline

Chapter 1: Introduces the report scope of the report, executive summary of different market segments (by type and by application, etc), including the market size of each market segment, future development potential, and so on. It offers a high-level view of the current state of the market and its likely evolution in the short to mid-term, and long term.

Chapter 2: Introduces the market dynamics, latest developments of the market, the driving factors and restrictive factors of the market, the challenges and risks faced by manufacturers in the industry, and the analysis of relevant policies in the industry.

Chapter 3: Short Wave Infrared (SWIR) production/output of global and key producers (regions/countries). It provides a quantitative analysis of the production, and development potential of each producer in the next six years.



Chapter 4: Sales (consumption), revenue of Short Wave Infrared (SWIR) in global, regional level and country level. It provides a quantitative analysis of the market size and development potential of each region and its main countries and introduces the market development, future development prospects, market space of each country in the world.

Chapter 5: Detailed analysis of Short Wave Infrared (SWIR) manufacturers competitive landscape, price, sales, revenue, market share and industry ranking, latest development plan, merger, and acquisition information, etc.

Chapter 6: Provides the analysis of various market segments by type, covering the sales, revenue, average price, and development potential of each market segment, to help readers find the blue ocean market in different market segments.

Chapter 7: Provides the analysis of various market segments by application, covering the sales, revenue, average price, and development potential of each market segment, to help readers find the blue ocean market in different downstream markets.

Chapter 8: Provides profiles of key manufacturers, introducing the basic situation of the main companies in the market in detail, including product descriptions and specifications, Short Wave Infrared (SWIR) sales, revenue, price, gross margin, and recent development, etc.

Chapter 9: North America (US & Canada) by type, by application and by country, sales, and revenue for each segment.

Chapter 10: Europe by type, by application and by country, sales, and revenue for each segment.

Chapter 11: China by type, by application, sales, and revenue for each segment.

Chapter 12: Asia (Excluding China) by type, by application and by region, sales, and revenue for each segment.

Chapter 13: Middle East, Africa, Latin America by type, by application and by country, sales, and revenue for each segment.

Chapter 14: Analysis of industrial chain, sales channel, key raw materials, distributors and customers.



Chapter 15: The main concluding insights of the report.

Chapter 15: The main concluding insights of the report.



Contents

1 MARKET OVERVIEW

- 1.1 Product Definition
- 1.2 Short Wave Infrared (SWIR) Market by Type
- 1.2.1 Global Short Wave Infrared (SWIR) Market Size by Type, 2019 VS 2023 VS 2030
 - 1.2.2 SWIR Area Scan Camera
 - 1.2.3 SWIR Line Scan Camera
- 1.3 Short Wave Infrared (SWIR) Market by Application
- 1.3.1 Global Short Wave Infrared (SWIR) Market Size by Application, 2019 VS 2023 VS 2030
 - 1.3.2 Industrial Application
 - 1.3.3 Military and Defense
 - 1.3.4 Scientific Research
 - 1.3.5 Others
- 1.4 Assumptions and Limitations
- 1.5 Study Goals and Objectives

2 SHORT WAVE INFRARED (SWIR) MARKET DYNAMICS

- 2.1 Short Wave Infrared (SWIR) Industry Trends
- 2.2 Short Wave Infrared (SWIR) Industry Drivers
- 2.3 Short Wave Infrared (SWIR) Industry Opportunities and Challenges
- 2.4 Short Wave Infrared (SWIR) Industry Restraints

3 GLOBAL SHORT WAVE INFRARED (SWIR) PRODUCTION OVERVIEW

- 3.1 Global Short Wave Infrared (SWIR) Production Capacity (2019-2030)
- 3.2 Global Short Wave Infrared (SWIR) Production by Region: 2019 VS 2023 VS 2030
- 3.3 Global Short Wave Infrared (SWIR) Production by Region
 - 3.3.1 Global Short Wave Infrared (SWIR) Production by Region (2019-2024)
 - 3.3.2 Global Short Wave Infrared (SWIR) Production by Region (2025-2030)
- 3.3.3 Global Short Wave Infrared (SWIR) Production Market Share by Region (2019-2030)
- 3.4 North America
- 3.5 Europe
- 3.6 China



3.7 Japan

4 GLOBAL MARKET GROWTH PROSPECTS

- 4.1 Global Short Wave Infrared (SWIR) Revenue Estimates and Forecasts (2019-2030)
- 4.2 Global Short Wave Infrared (SWIR) Revenue by Region
- 4.2.1 Global Short Wave Infrared (SWIR) Revenue by Region: 2019 VS 2023 VS 2030
- 4.2.2 Global Short Wave Infrared (SWIR) Revenue by Region (2019-2024)
- 4.2.3 Global Short Wave Infrared (SWIR) Revenue by Region (2025-2030)
- 4.2.4 Global Short Wave Infrared (SWIR) Revenue Market Share by Region (2019-2030)
- 4.3 Global Short Wave Infrared (SWIR) Sales Estimates and Forecasts 2019-2030
- 4.4 Global Short Wave Infrared (SWIR) Sales by Region
 - 4.4.1 Global Short Wave Infrared (SWIR) Sales by Region: 2019 VS 2023 VS 2030
 - 4.4.2 Global Short Wave Infrared (SWIR) Sales by Region (2019-2024)
 - 4.4.3 Global Short Wave Infrared (SWIR) Sales by Region (2025-2030)
 - 4.4.4 Global Short Wave Infrared (SWIR) Sales Market Share by Region (2019-2030)
- 4.5 US & Canada
- 4.6 Europe
- 4.7 China
- 4.8 Asia (Excluding China)
- 4.9 Middle East, Africa and Latin America

5 MARKET COMPETITIVE LANDSCAPE BY MANUFACTURERS

- 5.1 Global Short Wave Infrared (SWIR) Revenue by Manufacturers
 - 5.1.1 Global Short Wave Infrared (SWIR) Revenue by Manufacturers (2019-2024)
- 5.1.2 Global Short Wave Infrared (SWIR) Revenue Market Share by Manufacturers (2019-2024)
- 5.1.3 Global Short Wave Infrared (SWIR) Manufacturers Revenue Share Top 10 and Top 5 in 2023
- 5.2 Global Short Wave Infrared (SWIR) Sales by Manufacturers
 - 5.2.1 Global Short Wave Infrared (SWIR) Sales by Manufacturers (2019-2024)
- 5.2.2 Global Short Wave Infrared (SWIR) Sales Market Share by Manufacturers (2019-2024)
- 5.2.3 Global Short Wave Infrared (SWIR) Manufacturers Sales Share Top 10 and Top 5 in 2023
- 5.3 Global Short Wave Infrared (SWIR) Sales Price by Manufacturers (2019-2024)
- 5.4 Global Short Wave Infrared (SWIR) Key Manufacturers Ranking, 2022 VS 2023 VS



2024

- 5.5 Global Short Wave Infrared (SWIR) Key Manufacturers Manufacturing Sites & Headquarters
- 5.6 Global Short Wave Infrared (SWIR) Manufacturers, Product Type & Application
- 5.7 Global Short Wave Infrared (SWIR) Manufacturers Commercialization Time
- 5.8 Market Competitive Analysis
 - 5.8.1 Global Short Wave Infrared (SWIR) Market CR5 and HHI
 - 5.8.2 2023 Short Wave Infrared (SWIR) Tier 1, Tier 2, and Tier

6 SHORT WAVE INFRARED (SWIR) MARKET BY TYPE

- 6.1 Global Short Wave Infrared (SWIR) Revenue by Type
 - 6.1.1 Global Short Wave Infrared (SWIR) Revenue by Type (2019 VS 2023 VS 2030)
- 6.1.2 Global Short Wave Infrared (SWIR) Revenue by Type (2019-2030) & (US\$ Million)
 - 6.1.3 Global Short Wave Infrared (SWIR) Revenue Market Share by Type (2019-2030)
- 6.2 Global Short Wave Infrared (SWIR) Sales by Type
 - 6.2.1 Global Short Wave Infrared (SWIR) Sales by Type (2019 VS 2023 VS 2030)
 - 6.2.2 Global Short Wave Infrared (SWIR) Sales by Type (2019-2030) & (Units)
 - 6.2.3 Global Short Wave Infrared (SWIR) Sales Market Share by Type (2019-2030)
- 6.3 Global Short Wave Infrared (SWIR) Price by Type

7 SHORT WAVE INFRARED (SWIR) MARKET BY APPLICATION

- 7.1 Global Short Wave Infrared (SWIR) Revenue by Application
- 7.1.1 Global Short Wave Infrared (SWIR) Revenue by Application (2019 VS 2023 VS 2030)
- 7.1.2 Global Short Wave Infrared (SWIR) Revenue by Application (2019-2030) & (US\$ Million)
- 7.1.3 Global Short Wave Infrared (SWIR) Revenue Market Share by Application (2019-2030)
- 7.2 Global Short Wave Infrared (SWIR) Sales by Application
- 7.2.1 Global Short Wave Infrared (SWIR) Sales by Application (2019 VS 2023 VS 2030)
 - 7.2.2 Global Short Wave Infrared (SWIR) Sales by Application (2019-2030) & (Units)
- 7.2.3 Global Short Wave Infrared (SWIR) Sales Market Share by Application (2019-2030)
- 7.3 Global Short Wave Infrared (SWIR) Price by Application



8 COMPANY PROFILES

- 8.1 FLIR Systems
 - 8.1.1 FLIR Systems Comapny Information
 - 8.1.2 FLIR Systems Business Overview
- 8.1.3 FLIR Systems Short Wave Infrared (SWIR) Sales, Revenue, Price and Gross Margin (2019-2024)
 - 8.1.4 FLIR Systems Short Wave Infrared (SWIR) Product Portfolio
- 8.1.5 FLIR Systems Recent Developments
- 8.2 Hamamatsu Photonics
 - 8.2.1 Hamamatsu Photonics Comapny Information
 - 8.2.2 Hamamatsu Photonics Business Overview
- 8.2.3 Hamamatsu Photonics Short Wave Infrared (SWIR) Sales, Revenue, Price and Gross Margin (2019-2024)
- 8.2.4 Hamamatsu Photonics Short Wave Infrared (SWIR) Product Portfolio
- 8.2.5 Hamamatsu Photonics Recent Developments
- 8.3 Sensors Unlimited
 - 8.3.1 Sensors Unlimited Comapny Information
 - 8.3.2 Sensors Unlimited Business Overview
- 8.3.3 Sensors Unlimited Short Wave Infrared (SWIR) Sales, Revenue, Price and Gross Margin (2019-2024)
- 8.3.4 Sensors Unlimited Short Wave Infrared (SWIR) Product Portfolio
- 8.3.5 Sensors Unlimited Recent Developments
- 8.4 Teledyne Technologies
 - 8.4.1 Teledyne Technologies Comapny Information
 - 8.4.2 Teledyne Technologies Business Overview
- 8.4.3 Teledyne Technologies Short Wave Infrared (SWIR) Sales, Revenue, Price and Gross Margin (2019-2024)
 - 8.4.4 Teledyne Technologies Short Wave Infrared (SWIR) Product Portfolio
 - 8.4.5 Teledyne Technologies Recent Developments
- 8.5 Xenics
 - 8.5.1 Xenics Comapny Information
 - 8.5.2 Xenics Business Overview
- 8.5.3 Xenics Short Wave Infrared (SWIR) Sales, Revenue, Price and Gross Margin (2019-2024)
 - 8.5.4 Xenics Short Wave Infrared (SWIR) Product Portfolio
 - 8.5.5 Xenics Recent Developments
- 8.6 Allied Vision Technologies
 - 8.6.1 Allied Vision Technologies Comapny Information



- 8.6.2 Allied Vision Technologies Business Overview
- 8.6.3 Allied Vision Technologies Short Wave Infrared (SWIR) Sales, Revenue, Price and Gross Margin (2019-2024)
 - 8.6.4 Allied Vision Technologies Short Wave Infrared (SWIR) Product Portfolio
 - 8.6.5 Allied Vision Technologies Recent Developments
- 8.7 Raptor Photonics
 - 8.7.1 Raptor Photonics Comapny Information
 - 8.7.2 Raptor Photonics Business Overview
- 8.7.3 Raptor Photonics Short Wave Infrared (SWIR) Sales, Revenue, Price and Gross Margin (2019-2024)
- 8.7.4 Raptor Photonics Short Wave Infrared (SWIR) Product Portfolio
- 8.7.5 Raptor Photonics Recent Developments
- 8.8 IRCameras
 - 8.8.1 IRCameras Comapny Information
 - 8.8.2 IRCameras Business Overview
- 8.8.3 IRCameras Short Wave Infrared (SWIR) Sales, Revenue, Price and Gross Margin (2019-2024)
 - 8.8.4 IRCameras Short Wave Infrared (SWIR) Product Portfolio
 - 8.8.5 IRCameras Recent Developments
- 8.9 New Imaging Technologies
 - 8.9.1 New Imaging Technologies Comapny Information
 - 8.9.2 New Imaging Technologies Business Overview
- 8.9.3 New Imaging Technologies Short Wave Infrared (SWIR) Sales, Revenue, Price and Gross Margin (2019-2024)
 - 8.9.4 New Imaging Technologies Short Wave Infrared (SWIR) Product Portfolio
 - 8.9.5 New Imaging Technologies Recent Developments
- 8.10 First Light
 - 8.10.1 First Light Comapny Information
 - 8.10.2 First Light Business Overview
- 8.10.3 First Light Short Wave Infrared (SWIR) Sales, Revenue, Price and Gross Margin (2019-2024)
 - 8.10.4 First Light Short Wave Infrared (SWIR) Product Portfolio
 - 8.10.5 First Light Recent Developments
- 8.11 GuoHui OPTO-electronic
 - 8.11.1 GuoHui OPTO-electronic Comapny Information
 - 8.11.2 GuoHui OPTO-electronic Business Overview
- 8.11.3 GuoHui OPTO-electronic Short Wave Infrared (SWIR) Sales, Revenue, Price and Gross Margin (2019-2024)
 - 8.11.4 GuoHui OPTO-electronic Short Wave Infrared (SWIR) Product Portfolio



- 8.11.5 GuoHui OPTO-electronic Recent Developments
- 8.12 Infiniti Electro-Optics
 - 8.12.1 Infiniti Electro-Optics Comapny Information
 - 8.12.2 Infiniti Electro-Optics Business Overview
- 8.12.3 Infiniti Electro-Optics Short Wave Infrared (SWIR) Sales, Revenue, Price and Gross Margin (2019-2024)
- 8.12.4 Infiniti Electro-Optics Short Wave Infrared (SWIR) Product Portfolio
- 8.12.5 Infiniti Electro-Optics Recent Developments
- 8.13 SWIR Vision Systems
 - 8.13.1 SWIR Vision Systems Comapny Information
 - 8.13.2 SWIR Vision Systems Business Overview
- 8.13.3 SWIR Vision Systems Short Wave Infrared (SWIR) Sales, Revenue, Price and Gross Margin (2019-2024)
- 8.13.4 SWIR Vision Systems Short Wave Infrared (SWIR) Product Portfolio
- 8.13.5 SWIR Vision Systems Recent Developments
- 8.14 Photonic Science
 - 8.14.1 Photonic Science Comapny Information
 - 8.14.2 Photonic Science Business Overview
- 8.14.3 Photonic Science Short Wave Infrared (SWIR) Sales, Revenue, Price and Gross Margin (2019-2024)
 - 8.14.4 Photonic Science Short Wave Infrared (SWIR) Product Portfolio
 - 8.14.5 Photonic Science Recent Developments

9 NORTH AMERICA

- 9.1 North America Short Wave Infrared (SWIR) Market Size by Type
 - 9.1.1 North America Short Wave Infrared (SWIR) Revenue by Type (2019-2030)
 - 9.1.2 North America Short Wave Infrared (SWIR) Sales by Type (2019-2030)
 - 9.1.3 North America Short Wave Infrared (SWIR) Price by Type (2019-2030)
- 9.2 North America Short Wave Infrared (SWIR) Market Size by Application
- 9.2.1 North America Short Wave Infrared (SWIR) Revenue by Application (2019-2030)
- 9.2.2 North America Short Wave Infrared (SWIR) Sales by Application (2019-2030)
- 9.2.3 North America Short Wave Infrared (SWIR) Price by Application (2019-2030)
- 9.3 North America Short Wave Infrared (SWIR) Market Size by Country
- 9.3.1 North America Short Wave Infrared (SWIR) Revenue Grow Rate by Country (2019 VS 2023 VS 2030)
- 9.3.2 North America Short Wave Infrared (SWIR) Sales by Country (2019 VS 2023 VS 2030)
 - 9.3.3 North America Short Wave Infrared (SWIR) Price by Country (2019-2030)



- 9.3.4 United States
- 9.3.5 Canada

10 EUROPE

- 10.1 Europe Short Wave Infrared (SWIR) Market Size by Type
 - 10.1.1 Europe Short Wave Infrared (SWIR) Revenue by Type (2019-2030)
- 10.1.2 Europe Short Wave Infrared (SWIR) Sales by Type (2019-2030)
- 10.1.3 Europe Short Wave Infrared (SWIR) Price by Type (2019-2030)
- 10.2 Europe Short Wave Infrared (SWIR) Market Size by Application
- 10.2.1 Europe Short Wave Infrared (SWIR) Revenue by Application (2019-2030)
- 10.2.2 Europe Short Wave Infrared (SWIR) Sales by Application (2019-2030)
- 10.2.3 Europe Short Wave Infrared (SWIR) Price by Application (2019-2030)
- 10.3 Europe Short Wave Infrared (SWIR) Market Size by Country
- 10.3.1 Europe Short Wave Infrared (SWIR) Revenue Grow Rate by Country (2019 VS 2023 VS 2030)
 - 10.3.2 Europe Short Wave Infrared (SWIR) Sales by Country (2019 VS 2023 VS 2030)
 - 10.3.3 Europe Short Wave Infrared (SWIR) Price by Country (2019-2030)
 - 10.3.4 Germany
 - 10.3.5 France
 - 10.3.6 U.K.
 - 10.3.7 Italy
 - 10.3.8 Russia

11 CHINA

- 11.1 China Short Wave Infrared (SWIR) Market Size by Type
 - 11.1.1 China Short Wave Infrared (SWIR) Revenue by Type (2019-2030)
 - 11.1.2 China Short Wave Infrared (SWIR) Sales by Type (2019-2030)
- 11.1.3 China Short Wave Infrared (SWIR) Price by Type (2019-2030)
- 11.2 China Short Wave Infrared (SWIR) Market Size by Application
- 11.2.1 China Short Wave Infrared (SWIR) Revenue by Application (2019-2030)
- 11.2.2 China Short Wave Infrared (SWIR) Sales by Application (2019-2030)
- 11.2.3 China Short Wave Infrared (SWIR) Price by Application (2019-2030)

12 ASIA (EXCLUDING CHINA)

- 12.1 Asia Short Wave Infrared (SWIR) Market Size by Type
 - 12.1.1 Asia Short Wave Infrared (SWIR) Revenue by Type (2019-2030)



- 12.1.2 Asia Short Wave Infrared (SWIR) Sales by Type (2019-2030)
- 12.1.3 Asia Short Wave Infrared (SWIR) Price by Type (2019-2030)
- 12.2 Asia Short Wave Infrared (SWIR) Market Size by Application
 - 12.2.1 Asia Short Wave Infrared (SWIR) Revenue by Application (2019-2030)
 - 12.2.2 Asia Short Wave Infrared (SWIR) Sales by Application (2019-2030)
 - 12.2.3 Asia Short Wave Infrared (SWIR) Price by Application (2019-2030)
- 12.3 Asia Short Wave Infrared (SWIR) Market Size by Country
- 12.3.1 Asia Short Wave Infrared (SWIR) Revenue Grow Rate by Country (2019 VS 2023 VS 2030)
 - 12.3.2 Asia Short Wave Infrared (SWIR) Sales by Country (2019 VS 2023 VS 2030)
 - 12.3.3 Asia Short Wave Infrared (SWIR) Price by Country (2019-2030)
 - 12.3.4 Japan
 - 12.3.5 South Korea
 - 12.3.6 India
 - 12.3.7 Australia
 - 12.3.8 China Taiwan
 - 12.3.9 Southeast Asia

13 MIDDLE EAST, AFRICA AND LATIN AMERICA

- 13.1 Middle East, Africa and Latin America Short Wave Infrared (SWIR) Market Size by Type
- 13.1.1 Middle East, Africa and Latin America Short Wave Infrared (SWIR) Revenue by Type (2019-2030)
- 13.1.2 Middle East, Africa and Latin America Short Wave Infrared (SWIR) Sales by Type (2019-2030)
- 13.1.3 Middle East, Africa and Latin America Short Wave Infrared (SWIR) Price by Type (2019-2030)
- 13.2 Middle East, Africa and Latin America Short Wave Infrared (SWIR) Market Size by Application
- 13.2.1 Middle East, Africa and Latin America Short Wave Infrared (SWIR) Revenue by Application (2019-2030)
- 13.2.2 Middle East, Africa and Latin America Short Wave Infrared (SWIR) Sales by Application (2019-2030)
- 13.2.3 Middle East, Africa and Latin America Short Wave Infrared (SWIR) Price by Application (2019-2030)
- 13.3 Middle East, Africa and Latin America Short Wave Infrared (SWIR) Market Size by Country
 - 13.3.1 Middle East, Africa and Latin America Short Wave Infrared (SWIR) Revenue



Grow Rate by Country (2019 VS 2023 VS 2030)

- 13.3.2 Middle East, Africa and Latin America Short Wave Infrared (SWIR) Sales by Country (2019 VS 2023 VS 2030)
- 13.3.3 Middle East, Africa and Latin America Short Wave Infrared (SWIR) Price by Country (2019-2030)
 - 13.3.4 Mexico
 - 13.3.5 Brazil
 - 13.3.6 Israel
 - 13.3.7 Argentina
 - 13.3.8 Colombia
 - 13.3.9 Turkey
 - 13.3.10 Saudi Arabia
 - 13.3.11 UAE

14 VALUE CHAIN AND SALES CHANNELS ANALYSIS

- 14.1 Short Wave Infrared (SWIR) Value Chain Analysis
 - 14.1.1 Short Wave Infrared (SWIR) Key Raw Materials
 - 14.1.2 Raw Materials Key Suppliers
 - 14.1.3 Manufacturing Cost Structure
 - 14.1.4 Short Wave Infrared (SWIR) Production Mode & Process
- 14.2 Short Wave Infrared (SWIR) Sales Channels Analysis
 - 14.2.1 Direct Comparison with Distribution Share
 - 14.2.2 Short Wave Infrared (SWIR) Distributors
 - 14.2.3 Short Wave Infrared (SWIR) Customers

15 CONCLUDING INSIGHTS

16 APPENDIX

- 16.1 Reasons for Doing This Study
- 16.2 Research Methodology
- 16.3 Research Process
- 16.4 Authors List of This Report
- 16.5 Data Source
 - 16.5.1 Secondary Sources
 - 16.5.2 Primary Sources
- 16.6 Disclaimer



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