

Visible Light Range Scientific Camera Market by Type (sCMOS, sCMOS (Backthinned), CCD, CCD (Backthinned), EMCCD), Camera Resolution (Less than 4 MP, 4 MP to 5 MP, 6 MP to 9 MP, More than 9 MP), Camera Price and Region - Global Forecast to 2028

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Abstracts

The visible light range scientific camera market is projected to reach USD 0.6 billion by 2028 from USD 0.4 billion in 2023; it is expected to grow at a CAGR of 7.9% from 2023 to 2028.

The visible light range scientific camera market, by type, has been segmented into sCMOS, sCMOS (Backthinned), CCD, CCD (Backthinned), and EM-CCD cameras. The spectral response of a camera refers to the detected signal response as a function of the wavelength of light. The visible light range scientific camera market, by camera resolution, has been segmented into less than 4 MP, 4MP to 5 MP, 5 MP to 9MP, and more than 9 MP resolution. For several applications, scientific cameras with increased resolution can offer advantages such as increased field of view or greater accuracy. Now, ultra-high-resolution cameras (greater than 12 Megapixels) are available with acceptable frame rates such as 12 Megapixels at 66 ps. When increasing resolution beyond 12 Megapixels, it can also involve a switch in sensor technology as very high-resolution CCD cameras have limited frame rates. The latest generation CMOS sensors eliminate the tradeoff for very high resolution and fast frame rates, for example, 12 Megapixels at 66 fps and higher. The visible light range scientific camera market is also segmented, by camera price, into four other subsegments i.e., less than USD 15,000, USD 15,000 to USD 30,000, USD 31,000 to USD 50,000, and more than USD 50,000.

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The less than 4 MP segment to hold largest market share in 2022

Megapixels are most commonly used to calculate the resolution of stills. Digital videos are still calculated in terms of pixels. Instead, video resolution is typically calculated as width-times-height. When a video's resolution is described as 1080 p, it means that the video's pixel count is 1920 X 1080. This means that a 1080 p video has a total pixel count of 2,073,600 in each frame. Presented in terms of megapixels, this would be rounded off to 2 MP. These types of cameras have a lower resolution as compared to higher resolution cameras, in an image and if the image is printed or visualized in a larger area then the pixels (noise) will be visible, and the visual fidelity of the image will be low. Cameras with this resolution type are mostly used for low-light imaging. The larger an image is blown up, the more megapixels are required to maintain the visual fidelity of the image. Therefore, cameras with a resolution between 5 MP and 9 MP are of higher resolution and provide HD-quality images. Although, this range of megapixel cameras provides more noise than low-resolution cameras due to the higher number of pixels.

China is expected to grow at the highest CAGR during the forecast period

According to the US Census Bureau, China's population is estimated to fall slightly from 1.426 billion in 2022 to 1.416 billion in 2030. However, the country's geriatric population is increasing at a high rate. It is estimated that the population aged 60 years and above will increase to 348.8 million by 2050. As a result, the prevalence of target health conditions such as CVD (cardiovascular disease) and cancer is expected to increase in China in the coming years. Apart from the growth in the target patient population, the rising number of hospitals and increasing healthcare expenditure have boosted the availability and use of medical cameras in the country. The total number of hospitals in China has increased significantly over the last decade from roughly 21 thousand in 2010 to about 36.6 thousand hospitals in 2021. Furthermore, technological advancements in the country are also supporting the growth of the scientific cameras

market.

Breakdown of profiles of primary participants:

By Company Type: Tier 1 = 30%, Tier 2 = 50%, and Tier 3 = 20%

By Designation: C-level Executives = 25%, Directors = 35%, and Others = 40%

By Region: North America = 35%, Europe = 30%, APAC = 25%, and RoW = 10%

The major players in the visible light range scientific camera market include Hamamatsu Photonics (Japan), Teledyne Technologies (US), Thorlabs, Inc. (US), XIMEA GmbH (Germany), Photonic Science (UK), Excelitas PCO GmbH (PCO-TECH Inc.) (Germany), Oxford Instruments (Andor Technology) (UK), Atik Cameras (UK), Diffraction Limited (Canada), and Spectral Instruments, Inc (US).

Research Coverage:

This report segments the Visible Light Range Scientific Camera Market by Type (sCMOS, sCMOS (Backthinned), CCD, CCD (Backthinned), EMCCD), Camera Resolution (Less than 4 MP, 4 MP to 5 MP, 6 MP to 9 MP, More than 9 MP), Camera Price, and Region – Global Forecast to 2028

Reasons to Buy the Report:

This report includes statistics pertaining to the visible light range scientific camera market based on type, camera resolution, camera price, and region.

Major drivers, restraints, opportunities, and challenges for the visible light range scientific camera market have been provided in detail in this report

The report includes illustrative segmentation, analysis, and forecast for the visible light range scientific camera market based on its segments.

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