Industrial Computed Radiography - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2025 - 2030)

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Report description:

The Industrial Computed Radiography Market size is estimated at USD 438.27 million in 2025, and is expected to reach USD 612.69 million by 2030, at a CAGR of 6.93% during the forecast period (2025-2030).

Computed radiography technology offers enormous advantages for inspection tasks, and the use of consumables is virtually eliminated, further reducing the time to produce an image. These factors are expected to increase market adoption.

Key Highlights
- Minute details are visible and analyzable due to a higher dynamic range than a film in traditional x-ray machines. Further, it provides a simplified workflow, a safer working environment for operators, and a more environmentally-friendly chemical-free process.
- Various computed radiography vendors have improved digital radiography scanners, phosphor imaging plates, and software programs. As a result, new products have been introduced that directly meet the needs of industries such as aerospace and defense, oil and gas, etc.
- Various products on the market use cylinder or flat panel scanners with software ranging from 14-bit logarithmic to 16-bit linear. Minimum pixel sizes range from 12.5-25, 25-35, 35-70, and 70-100 pixels, resulting in significantly increased essential spatial resolution, signal-to-noise ratio values, and grey values to fulfill many of the current standards. These have a substantial impact on the likelihood of detecting faults in materials.
- Current CR scanners and phosphor imaging plates can scan resolutions of 12.5 - 25 (equal to D4/IX50 in radiography film). These fulfill the sensitivity criteria in specifications, such as 2% radiographic sensitivity or greater, and the likelihood of fault identification has increased significantly.
- However, high installation costs and further technological improvements may disrupt the market.

- As per the Gross Domestic Product (GDP) for the Q1 of 2020-21 released by the National Statistical Office and Ministry of Statistic and Program Institute (MOSPI) India, the impact of COVID-19 on the gross value-added of construction, manufacturing, and mining sector accounted for -12.6%, -9.4%, and -12.4%. Thus, the decline in the growth of these industries is expected to stall the market growth for a short period, impacting the market growth.

Industrial Computed Radiography Market Trends

Nondestructive Testing Expected to Drive the Market Growth

- Computed radiography is a sort of non-destructive testing (NDT) used in industrial settings to check the safety and integrity of manufactured components and assemblies. For example, NDT must ensure that all in-service and crucial parts are fit-for-purpose in the oil and gas business. Pipes used to transfer oil or gas are essential components to be well maintained and inspected. Hence, due to the growing demand for NDT in industries, the adoption of computed radiography techniques is also increasing in industrial applications.
- Also, with the increase in automation in the industrial manufacturing and infrastructure sectors, there has been a substantial hike in demand for flaw detection related to cracks, porosity, manufacturing disorders, and so on.
- Moreover, several governmental agencies and regional bodies, like the American Society of Mechanical Engineers (ASME) and the International Organization for Standardization (ISO), have instituted to take stringent measures to ensure the safety of instruments and oversee engineering services testing. Hence, the demand for non-destructive testing is increasing across industries.
- Also, computed radiography applications in aerospace include detecting internal defects in thick and complex shapes, metallic and non-metallic forms, and the quality of critical aerospace components, structures, and assemblies. Further, increasing emphasis on safety standards, decreasing service intervals, low emission targets, and new materials and processes are the major factors driving the computed radiography market in the aerospace segment.

North America Expected to Dominate the Market

- North America is expected to dominate the global computed radiography market due to the increasing adoption of added radiography equipment coupled with technological advancements in the region. Key players like Fujifilm Corporation and Siemens Healthcare also have a strong presence.
- In September 2021, Ford and SK Innovation announced a plan to invest USD11.4 billion and create nearly 11,000 new jobs in the United States. Three new BlueOval SK battery plants, two in Kentucky and one in Tennessee enable 129-gigawatt hours a year of US production capacity for Ford.
- In February 2021, President Joe Biden stated that domestic semiconductor manufacturing is a priority for the country's administration. The new administration is poised to fix growing chip shortages and address lawmakers' concerns that outsourcing chipmaking had made the United States more vulnerable to supply chain disruptions. In an executive action, Biden started began a 100-day review that could boost American chip companies with additional government support and new policies.
- Furthermore, the expansion of healthcare in the North American region and its application in the healthcare business boost the area's market growth.

Industrial Computed Radiography Industry Overview

The intensity of competitive rivalry in the market studied is high during the forecast period. With the technological developments in the radiography market, the vendors and end-users are expected to shift towards the new technology. Hence, the existing players are innovating their products to maintain their market share. Also, many companies view geographical expansion as a path to gaining market traction.

- February 2022 - The Government of Canada announced a significant investment in the Canadian semiconductor and photonics industries. The investment of CAD 240 million is expected to help solidify Canada's role as a global leader in photonics and may bolster the development and manufacturing of semiconductors. Over 100 domestic and international semiconductor companies are working on microchip research and development in Canada. In areas including compound semiconductors, microelectromechanical systems (MEMS), and advanced packaging, it has over 30 applied research laboratories and five commercial facilities.
- March 2021 - Intel committed to two more new fabrication plants, or fabs, in Arizona. The news comes during a global chip shortage that is snarling industries from automobiles to electronics and worries the United States is falling behind in semiconductor manufacturing. The foundry is poised to manufacture a range of chips based on ARM technology used in mobile devices and has historically competed with Intel's favored x86 technology.

Additional Benefits:

- The market estimate (ME) sheet in Excel format
- 3 months of analyst support

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