

Global Risk Based Inspection Market Size Study, by Type (Qualitative, Semi-Quantitative, Quantitative), Application (Pressure Vessels, Pipelines, Storage Tanks, Boilers, Heat Exchangers), by Sourcing (Outsourcing, In-house) and Regional Forecasts 2025-2035

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Abstracts

The Global Risk Based Inspection Market was valued at approximately USD 0.85 billion in 2024 and is projected to scale up steadily to around USD 1.92 billion by 2035, expanding at a CAGR of nearly 7.70% over the forecast period of 2025–2035. Risk Based Inspection (RBI) refers to a systematic and data-driven inspection methodology that prioritizes assets based on their probability of failure and the potential consequences associated with such failures. By shifting away from time-based inspection routines and leaning into risk-centric decision-making, RBI enables asset-intensive industries to allocate resources more efficiently, minimize downtime, and extend equipment life cycles. The market's growth trajectory is being shaped by rising safety compliance requirements, aging industrial infrastructure, and an industry-wide push to optimize maintenance expenditure without compromising operational integrity.

As industrial operators grapple with tighter regulatory scrutiny and mounting pressure to prevent catastrophic failures, the adoption of RBI frameworks has gathered momentum across sectors such as oil & gas, power generation, chemicals, and manufacturing. Organizations are increasingly rolling out RBI programs to cut down unnecessary inspections, bring down lifecycle costs, and proactively flag high-risk equipment before failures spiral into costly shutdowns. Advances in digital inspection tools, corrosion monitoring technologies, and data analytics have further sharpened the effectiveness of RBI methodologies. However, challenges such as high upfront implementation costs,

lack of skilled personnel, and resistance to transitioning from conventional inspection practices continue to temper adoption in certain developing markets.

The detailed segments and sub-segments included in the report are:

By Type:

Qualitative

Semi-Quantitative

Quantitative

By Application:

Pressure Vessels

Pipelines

Storage Tanks

Boilers

Heat Exchangers

By Sourcing:

Outsourcing

In house

By Region:

North America

U.S.

Canada

Europe

UK

Germany

France

Italy

Spain

ROE

Asia Pacific

China

India

Japan

South Korea

Australia

RoAPAC

Latin America

Brazil

Mexico

Middle East & Africa

UAE

Saudi Arabia

South Africa

Rest of Middle East & Africa

Among the different segments, the quantitative risk based inspection approach is expected to dominate the market over the forecast period. Quantitative RBI models rely heavily on statistical analysis, historical failure data, and probabilistic modeling to deliver highly accurate risk assessments. These methods are increasingly being favored by large-scale industrial operators managing complex and high-risk assets, as they allow maintenance teams to zero in on critical failure points while justifying inspection decisions with measurable data. As digital twins and advanced analytics continue to be layered onto inspection workflows, quantitative RBI is likely to cement its position as the preferred methodology.

From a revenue perspective, pipeline applications currently account for the largest share of the Global Risk Based Inspection Market. Pipelines represent mission-critical infrastructure across oil & gas, chemicals, and water utilities, where failures can trigger severe environmental, financial, and reputational damage. The widespread deployment of RBI programs for pipeline integrity management—driven by corrosion risks, aging assets, and regulatory mandates—has significantly boosted spending in this segment. While pressure vessels and storage tanks also contribute meaningfully to overall revenues, pipeline-focused RBI solutions remain the primary revenue generator due to their scale and risk exposure.

Regionally, North America continues to lead the Global Risk Based Inspection Market, supported by a mature industrial base, stringent safety regulations, and early adoption of advanced inspection methodologies. The presence of aging oil & gas infrastructure and strong enforcement of asset integrity standards has further reinforced market demand in the region. Europe follows closely, driven by regulatory harmonization and sustainability-focused maintenance strategies. Asia Pacific is expected to witness the

fastest growth during the forecast period, fueled by rapid industrialization, expanding energy infrastructure, and increasing awareness around risk-based asset management in countries such as China and India. Meanwhile, Latin America and the Middle East & Africa are gradually accelerating adoption as large-scale energy and industrial projects continue to come online.

Major market players included in this report are:

DNV Group

T?V Rheinland

SGS S.A.

Bureau Veritas

ABS Group

Intertek Group plc

Lloyd's Register Group Limited

Fluor Corporation

Honeywell International Inc.

Emerson Electric Co.

Shell Global Solutions

Aker Solutions

Jacobs Engineering Group Inc.

Wood Plc

Baker Hughes Company

Global Risk Based Inspection Market Report Scope:

Historical Data – 2023, 2024

Base Year for Estimation – 2024

Forecast period – 2025–2035

Report Coverage – Revenue forecast, Company Ranking, Competitive Landscape, Growth factors, and Trends

Regional Scope – North America; Europe; Asia Pacific; Latin America; Middle East & Africa

Customization Scope – Free report customization (equivalent to up to 8 analysts' working hours) with purchase. Addition or alteration to country, regional & segment scope*

The objective of the study is to define the market size of different segments and countries in recent years and to forecast their values for the coming years. The report is structured to blend qualitative insights with quantitative rigor, offering a balanced perspective on the evolving risk based inspection landscape. It further examines key growth drivers, operational challenges, and emerging opportunities within micro-markets, while delivering a detailed assessment of the competitive environment and strategic initiatives undertaken by leading industry participants.

Key Takeaways:

Market estimates and forecasts spanning 2025 to 2035.

Annualized revenue analysis across regions and market segments.

In-depth geographical assessment with country-level insights.

Comprehensive competitive landscape and profiling of key players.

Strategic analysis of business models and future market approaches.

Integrated demand-side and supply-side evaluation of the market.

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