

Self-Healing Materials Market: By Form (Extrinsic and Intrinsic), By Material type (concrete, coating, polymers, asphalt, and others), By End-User (Building & Construction, Transportation, Mobile Devices, General Industrial and Others), And Region – Global Analysis of Market Size, Share & Trends for 2019–2020 And Forecasts to 2031

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Abstracts

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PRODUCT OVERVIEW

Self-healing materials are man-made or synthetically manufactured substances with the ability to naturally repair harm to themselves without the need for external diagnostic or human involvement. Materials degrade over time as a result of fatigue, environmental factors, or damage sustained during use. On a microscopic level, cracks and other forms of harm have been found to alter the thermal, electrical, & acoustical properties of a material, and crack propagation can lead to material failure. Smart structures are self-healing materials that can adapt to diverse environmental circumstances based on their sensor and actuator characteristics.

MARKET HIGHLIGHTS

Global Self-Healing materials market is expected to project a notable CAGR of 78.4% in 2031.

Global Self-Healing materials to surpass USD 521.6 billion by 2031 from USD 1.6 billion in 2021 at a CAGR of 78.4% in the coming years, i.e., 2021-31. The expanding major applications, technological advancements, & growing demand in key-use sectors such as construction and building, aerospace, & automotive are driving the self-healing materials market. Government rules governing the use of self-healing material for the purpose of improving product safety and quality are also contributing to the market's increased use and demand.

GLOBAL SELF-HEALING MATERIALS MARKET: SEGMENTS

Extrinsic self-healing material segment to grow with the highest CAGR during 2021-31

The worldwide self-healing materials market is categorized into extrinsic and intrinsic categories based on form. The extrinsic self-healing materials category owned the greatest share of the self-healing materials market. The particular combination of qualities makes it helpful in a variety of industries, which is also the primary driver of the market for self-healing materials. It enables the restoration of material features and functionality such as material damage or cracking and others in a simple and smooth manner.

Polymers segment to grow with the highest CAGR during 2021-31

The self-healing material market is divided as concrete, coating, polymers, asphalt, and others by material type. The polymers sector owned the greatest proportion of the self-healing materials market. The market is being driven by the enhanced rebinding properties of reversible polymers and elastomers. The rise in demand for polymers is being fueled by an increase in demand from the medical/healthcare sector due to an expansion in the scope of applications. The market will be driven by rising demand for polymers such as polyurethane, cross-linked polymers, vitrimers, and multifunctional multi-functional polymers, which have exceptional properties such as thermal stability, durability, abrasion resistance, thermodynamic stability, and abrasion resistance.

MARKET DYNAMICS

Drivers

Growing Usage of Self-Healing Materials in the Automobile and Electronics Industries

R&D in the field of advanced materials is a major trend

Restraint

Market expansion may be hampered by a limited self-healing mechanism.

GLOBAL SELF-HEALING MATERIALS MARKET:

Key Players

Acciona SA

Company Overview, Business Strategy, Key Product Offerings, Financial Performance, Key Performance Indicators, Risk Analysis, Recent Development, Regional Presence, SWOT Analysis

Akzo Nobel NV

Applied Thin Films, Inc.

Arkema Group

Autonomic Materials, Inc.

Avecom N.V.

BASF SE

Covestro AG

Critical Materials S.A.

Devan Chemicals NV

Other Prominent Players

GLOBAL SELF-HEALING MATERIALS MARKET REPORT ALSO CONTAINS ANALYSIS ON:

Self-Healing Materials Market Segments:

By Form

Extrinsic

Intrinsic

By Material Type

Concrete

Coatings

Polymers

Asphalt

Others

By End-User

Building & Construction

Transportation

Mobile Devices

General Industrial

Others

Self-Healing Materials Market Dynamics

Self-Healing Materials Market Size

Supply & Demand

Current Trends/Issues/Challenges

Competition & Companies Involved in the Market

Value Chain of the Market

Market Drivers and Restraints

Reasons to Purchase this Report

Qualitative and quantitative analysis of the market based on segmentation involving both economic as well as non-economic factors

Provision of market value (USD Billion) data for each segment and sub-segment

Indicates the region and segment that is expected to witness the fastest growth as well as to dominate the market

Analysis by geography highlighting the consumption of the product/service in the region as well as indicating the factors that are affecting the market within each region

Competitive landscape which incorporates the market ranking of the major players, along with new service/product launches, partnerships, business expansions, and acquisitions in the past five years of companies profiled

Extensive company profiles comprising of company overview, company insights, product benchmarking, and SWOT analysis for the major market players

The current as well as the future market outlook of the industry with respect to recent developments which involve growth opportunities and drivers as well as challenges and restraints of both emerging as well as developed regions

Includes in-depth analysis of the market of various perspectives through

Porter's five forces analysis

Provides insight into the market through Value Chain

Market dynamics scenario, along with growth opportunities of the market in the years to come

3-month post-sales analyst support.

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**The above given segmentations and companies could be subjected to further modification based on in-depth feasibility studies conducted for the final deliverable

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