

Rapid Liquid Printing Market - Forecasts from 2021 to 2026

<https://marketpublishers.com/r/RDF595C18111EN.html>

Date: February 2021

Pages: 124

Price: US\$ 4,250.00 (Single User License)

ID: RDF595C18111EN

Abstracts

The rapid liquid printing market is set to expand at a promising growth rate of 36.28% to reach US\$607.119 million by 2026 from US\$69.542 million in 2019.

Rapid liquid printing can be defined as the next generation 3D printing technology. It was developed by the Self-Assembly Lab from the Massachusetts Institute of Technology (MIT) in collaboration with Steelcase, a company known for furniture and interior design. Rapid liquid printing makes use of a viscous gel, this gel, when kept in a tank or vat, allows us to draw shapes which are then chemically cured into the solid product we desire. This final product can then be removed from the vat easily. This process enables building up of a material to be much quicker than any other method. Rapid liquid printing is considered to be the breakthrough that 3D printing needed in order to be adopted on a mass scale. Though 3D printing provided benefits like customization, personalisation and accessibility, it had a major disadvantage of being slow as compared to other traditional processes like casting, injection moulding, milling, etc. Also, 3D printing was found to be working well for manufacturing or producing only small components or small size products and not products which were large in size. While 3D printing depends on a layer-by-layer extrusion method, rapid liquid printing takes a different turn by using a viscous gel. This gel doesn't require a structural support and can be used to produce shapes and moulds with the help of a precision robot that dispenses the gel in the required shape. This technology can be used in a wide number of industries because of its ability to produce custom made products which are lighter in weight and easily replaceable as compared to other materials used for the same purposes like metals etc. The automotive industry will be the most benefited industry from using rapid liquid printing technology as all major components of cars and other vehicles can be printed using this technology. Also the components will be lighter in weight and easily replaceable than components made with metals like aluminium etc.

While rapid liquid printing offers significant advantages over 3D printing and can be used for a variety of purposes, it requires high capital investment. Since, it is an upcoming technology; the hardware such as printers, material such as foam etc. as well as the design software may be expensive for general use which acts as a restraint to the growth of the rapid liquid printing market.

The global rapid liquid printing market can be segmented on the basis of Offering, Application, Industry and Geography.

Based on Offering, the Rapid Liquid Printing Market can be segmented into Materials, Printers, Services, and Software. The Materials further studied across Foam, Plastic, and Rubber. The Printers further studied across Desktop Printers and Industrial Printers. The Software further studied across Design, Inspection, Printing, and Scanning.

Based on Application, the Rapid Liquid Printing Market can be segmented into Prototyping, Functional/End-Use Part Manufacturing and Tooling.

Based on Vertical, the Rapid Liquid Printing Market can be segmented into Consumer Products, Fashion, Automotive, Healthcare, Aerospace & Defence, Utility, Construction and Others.

Based on Geography, the Rapid Liquid Printing Market can be segmented into Americas, Europe Middle East and Africa, and Asia – Pacific.

Growth Factors

Increase in the demand for custom design and manufacturing

With an increase in demand for custom made products, a lot of companies have started manufacturing goods on the basis of the need and preference of the consumers. Thus, rapid liquid technology can be used to produce custom goods which are not “one size fits all” goods, rather are according to specific needs of the consumer and fulfil their individual pain points.

Rise of electric vehicles

The demand for electric vehicles will drive the growth of the rapid liquid printing market as electric vehicles require lightweight automobile components which can be made possible through the use of this technology. The adoption of 3D printing technologies to decrease the overall manufacturing cost of vehicles and improve interior designs is expected to fuel the market for 3D printing technologies in the automotive vertical.

Restraints

High Capital Investment Required.

The investment required for using rapid liquid printing to produce or manufacture products is huge. To begin printing, there is a requirement of a printer, material and design software, all of which can be expensive to purchase and maintain therefore acting as a restraint to the growth of the market.

Impact of COVID – 19

Due to economic downturn caused by the COVID – 19 pandemic, the spending capacity of people reduced which may have a negative effect on the growth of the rapid liquid printing market. Also due to reduced industrial production, companies reduced their spending on non-essential emerging technologies.

Key Developments

MIT Lab + Steelcase Yield
3D Printing Breakthrough -
MIT's Self-Assembly Lab,
Steelcase and award-
winning product designer

Christophe Guberan collaborated to create a new 3D printing process unveiled at Milano Design Week. The technology breaks the three constraints of traditional 3D printing by using a rapid liquid printing technique enhancing speed, scale and quality. The partnership between MIT, Steelcase and Guberan explores the future of furniture personalization and the opportunities for customization through innovation.

Liquid Printed Pneumatics: BMW & MIT reimagine car interiors with adaptable 3D printed inflatables - The innovative project, called “Liquid Printed Pneumatics,” was carried out in collaboration with the BMW Design Department and is currently being displayed as part of The Future Starts Here exhibition at the Victoria and Albert Museum (V&A) in London, which is highlighting groundbreaking and future-minded designs.

Competitive Insights

Prominent/major key market players in the global rapid liquid printing market include 3D Systems, Inc., Autodesk, Inc., BMW AG, Dassault Syst?mes, and EOS among others. The players in the global rapid liquid printing market are implementing various growth strategies to gain a competitive advantage over their competitors in this market. Major

market players in the market have been covered along with their relative competitive strategies and the report also mentions recent deals and investments of different market players over the last few years. The company profiles section details the business overview, financial performance (public companies) for the past few years, key products and services being offered along with the recent deals and investments of these important players in the global rapid liquid printing market.

Segmentation:

By Offering

Printers

Services

Materials

Software

By Application

Prototyping

Functional/End-Use Part Manufacturing

Tooling

By Industry

Consumer Products

Fashion

Automotive

Healthcare

Aerospace & Defense

Utility

Construction

Others

By Geography

Americas

USA

Canada

Others

Europe Middle East and Africa

Germany

United Kingdom

France

Others

Asia Pacific

China

Japan

South Korea

Others

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10.6. Materialise

10.7. Native Shoes

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