

# Global Additive Manufacturing Market (2012 – 2017) – By Application [Medical Devices, Automotives, & Aerospace] & Technology [3D Printing, Laser Sintering, Stereolithography, Fused Deposition Modeling, Electron Beam Melting, & Tissue Engineering]

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# **Abstracts**

Additive manufacturing is an automatic process used to create rapid prototypes and functional end-use parts. It takes virtual designs from Computer Aided Design (CAD) software, and transforms them into thin, virtual, horizontal layer-wise cross-sections, until the model is complete. The AM is a potentially growing market in every manufacturing sector with a global market of \$1,843.2 million in 2012 and is expected to grow at a CAGR of 13.5% to reach \$3,471.9 million by 2017.

The global additive manufacturing devices market has been segmented into different areas such as, automotives, consumer products, business machines, medical, academic, aerospace, government/military and others. Automotives or motor vehicles account for the largest share in this market, primarily due to the easy applications of 3D printing in the production of end-products (engines, spare parts, other interior, and exterior parts) as compared to other segments such as consumer products and business machines, which have limited usage in manufacturing of end-products. Rising healthcare expenditure in emerging economies provide growth opportunities for the additive manufacturing technologies, as new healthcare facilities have come up in these areas.

New and improved technologies, financial support from governments, large application area, rapid product development at a low cost, and ease of development of custom



products are the major drivers that are slated to propel this market. However, a few pivotal factors restraining the growth of this market are regulatory hurdles in different countries, material characterization during development, and process control and understanding.

In this report, we are mainly focusing on medical applications of additive manufacturing. Within the medical industry, additive manufacturing is used in making end-products such as surgical equipments, prosthetics & implants, and scaffolds. The market is growing due to the rising incidence of surgeries, coupled with increasing awareness and advances in technology. Surgical equipments account for the largest share in this market due to their wide applicability.

Europe dominates the additive manufacturing for medical devices market in 2012, followed by North America. However, adoption of novel additive manufacturing technologies in the medical field is gaining momentum at a fast pace in emerging nations due to growing educational and awareness efforts of industry players among physicians and patients. Moreover, increasing healthcare expenditure, growing income levels, low cost of manufacturing, rapid product development, growing surgical procedures in lieu with medical tourism, and lesser competition than mature countries, have amplified interest of market players in emerging markets.

The key players in this market are 3D Systems Corporation (U.S.), 3T RPD (U.K.), Arcam AB (Sweden), Biomedical Modeling, Inc. (U.S.), Envisiontec GmbH (Germany), EOS GmbH Electro Optical Systems (Germany), Fcubic AB (Sweden), GPI Prototype and Manufacturing Services, Inc. (U.S.), Greatbatch, Inc. (U.S.), Layerwise NV (Belgium), Limacorporate SPA (Italy), Materialise NV (Belgium), Medical Modeling, Inc. (U.S.), and others.

# **Scope of the Report**

This research report categorizes the global additive manufacturing market into the following:

# Global additive manufacturing market, by industry

Automotives



	Consumer products	
	Business machines	
	Medical	
	Academic	
	Aerospace	
	Government/military	
	Others	
Global additive manufacturing market, by materials		
	Homogeneous materials	
	Polymers	
	Metals	
	Natural materials	
	Ceramics	
	Heterogeneous materials	
	Polymeric matrix	
	Metallic matrix	
	Ceramic matrix	
	Multiple materials	

# Global additive manufacturing for medical devices market



# By Products

Surgical equipment

Surgical guides

surgical instruments

Prosthetics & implants

Orthopedic implants

Dental implants

Cranio-maxillofacial implants

Tissue engineering

Porous tissue engineering scaffolds

# By Technology

Electron Beam Melting (EBM)

Laser Beam Melting (LBM)

Direct Metal Laser Sintering (DMLS)

Selective Laser Melting (SLM)

Selective Laser Sintering (SLS)

Laser Cusing

Photopolymerization

**Digital Light Processing** 



	Stereolithography	
	Two-Photon Polymerization	
	Droplet Deposition (DD) or Extrusion based technologies	
	Low-temperature Deposition Manufacturing (LDM)	
	Multiphase Jet Solidification (MJS)	
	Fused Deposition Modeling (FDM)	
	Three Dimensional Printing (3DP) or Adhesion Bonding	
By Application		
	Orthopaedic	
	Dental	
	Cranio-Maxillofacial	
	Bio-Engineering	
By Geography		
	North America	
	Europe	
	Asia	
	RoW (Middle East, Africa, Russia, and Latin America)	



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