

## Market Analysis on Biomaterials & Tissue Engineering

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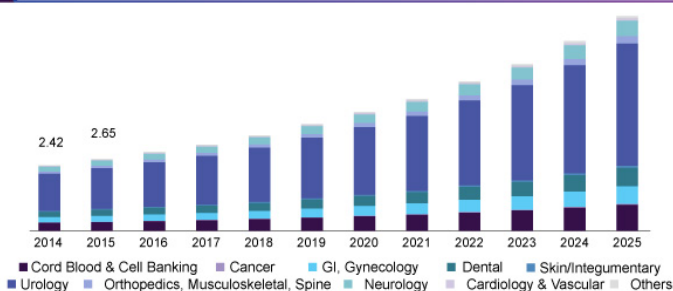
Tissue engineering incorporates biological components, such as cells and growth factors, with engineering principles and synthetic materials. Artificial tissues can be produced by first seeding human cells onto scaffolds, which may be made from collagen or from a biodegradable polymer. The scaffolds are then incubated in mediums containing growth factors, which stimulate the cells to grow and divide. As cells spread across the scaffold, the artificial tissue is formed. This tissue can be implanted into the human body, with the implanted scaffold eventually being either absorbed or dissolved.

The global tissue engineering market is poised to grow at a healthy 17.22% CAGR over the estimated years (2017-2022).

Based on applications, the tissue engineering market is segmented into GI and gynaecology, cord blood and cell banking, neurology, urology, cardiology, dental, cancer, skin/integumentary and orthopaedics, musculoskeletal and spine. Of these, orthopaedics, musculoskeletal and spine will have the maximum share in the market over the estimated years. The global antiviral drug resistance market is expected to reach US\$ 4,573.24 Mn in 2027 from US\$ 2,572.26 Mn in 2018. The Antiviral drug resistance market is estimated to grow with a CAGR of 6.8% from 2019-2027.

Overall, the Tissue Engineering market, globally, for 2019 is projected to touch US\$25.4billion.

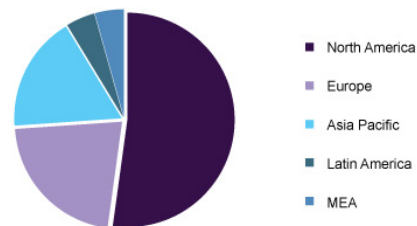
U.S. tissue engineering market size, by application, 2014-2025 (USD Billion)



The technology has reached a stage where the products offer a reduced rate of rejection by the body, which would further propel the market for Tissue Engineering. Though North America is the leading global region for revenues garnered from Tissue Engineering, Asia-Pacific is likely to outpace all other regions by posting the fastest CAGR over the analysis period.

Orthopaedics, Musculoskeletal & Spine applications corner the largest share of the global market for Tissue Engineering in terms of application, which is estimated at 60.5% or US\$13.5 billion in 2018 and is projected to reach US\$34.7 billion by 2024 at a CAGR of 17.1% between the two years.

Global tissue engineering market share, by region, 2015 (%)



### LIST OF TISSUE ENGINEERING COMPANIES

**USA Tissue Engineering & Biomaterials Companies:**  
 Synthecon Industry | Cell Serve Laboratory | Cell Therapies | Biomaterials Conferences | Living Cell Technologies | Bone Therapies | Regen Bio Pharma | Cellular Biotechnologies | Immatics Biotechnologies | Tissue Engineering Conferences | Bio fabrication for Medicine (Morini) Laboratories | Regenerative Medicine Laboratories | Vericel Industry | Kolon Tissue Gene Laboratories | Novartis Industries | Pharma Cell | Tissue Science Conferences USA | Kiadis Pharma | Mesoblast Industries | Vet Stem Biopharma Industries | OncoMed Pharmaceuticals | Invivo Gen Therapeutics | Stem Cell Conferences 2019 | New Link Genetics | Cytori Therapeutics | Celther Polska | Cell Therapy Conferences | OxStem Industries

### Europe Tissue Engineering & Biomaterials Companies:

Regeneron Pharmaceuticals | Alynham Pharmaceuticals | BridgeBio | Ilya Pharma | CeMM - Research Center for Molecular Medicine of the Austrian Academy of Sciences | MRC Laboratory of Molecular Biology | Genome British Columbia | Institut Pasteur | Magnisense | IFOM The FIRC Institute of Molecular Oncology Foundation | SOLEIL Synchrotron | Boehringer Ingelheim | CRCL - Cancer Research Centre of Lyon | iMM Lisboa - Instituto de Medicina Molecular | EBI - European Bioinformatics Institute | Clinical Pathology Laboratories | Archives-Pathology & Lab Med

### Middle East Tissue Engineering & Biomaterials Companies:

AlZahrawi Medical | QatarScientificCompany | Afghanpharma | AL Baker | Biotech Pharma Services | Pharmedlink | Pharma Trade | Planet Pharmacies LLC | Julphar Gulf Pharmaceutical Industries | QIAGEN | Biosytech | BioFunds.org | ProSpec | Global Hawk Imaging & Diagnostics | Allied Diagnostics | Gulf Diagnostics Center WLL | Medsol Diagnostics | Minerva Diagnostics laboratory

**Asia Tissue Engineering & Biomaterials Companies:**

Dr Lal PathLabs Pvt Ltd | Riken Genesis | Ascletris – RNAI Therapeutic | City Diagnostic and Health Care Clinic | ForteBio | Acton Biotech | Dr. Dangs Pathology Labs | Helix Pathlabs | Clontech | Mullackals | SwitchGear Genomics | Piramal Diagnostics | Abgent | YSS enzymes | SRL Diagnostics Ltd | Xcelris Genomics | Thyrocare Technologies Ltd | Schrodinger | CLC Bio | Biocon | Syngene | Panagene | ToolGen | 3D Matrix | Integrated DNA Technologies | Ayoxxa | Austrianova Biotechnology | Vivantis Technologies

**African Tissue Engineering & Biomaterials Companies:**

Alere Inc| Bio-Reference Laboratories | DaVita Healthcare Partners Inc. | Genomic Health Inc., | Synexa Life Sciences | Myriad Genetics Inc., | NeoGenomics Inc., | Quest Diagnostics Inc., | Kapa Biosystems | Sonic Healthcare Limited | Biotech Africa | SYNLAB International GMBH

**Australian Tissue Engineering & Biomaterials Companies:**

Clinical Centre of Serbia | Charite – Universitätsmedizin Berlin | Starna | Cynata | PX Biosolutions | Regeneus | Antisense Therapeutics | Integrated DNA Technologies | BMG Labtech | PolyActiva | Genetic Signatures | Viralytics | Benitec | Innate Immunotherapeutics

**LIST OF TISSUE ENGINEERING UNIVERSITIES**

**USA Tissue Engineering & Biomaterials Universities:**

West Chester University| Indiana University | Purdue University Indianapolis | State University of New York | Binghamton University | State University of New York | University of Arizona | Community Colleges of Spokane | Valencia College | Madonna University | San Jose State University | Virginia Commonwealth University | University of Alabama | Virginia Tech | St. John's University | Northern Arizona University | Arizona State University | University of Cincinnati | Colorado State University | Kent State University | Mississippi State University | Western Michigan University | Biomaterial Conferences | Montana State University | Texas A&M University | University of New Mexico | California State University | University of Maine | Wright State University | Old Dominion University | Long Island University | Loyola University Chicago | Troy University | Wichita State University

**Europe Tissue Engineering & Biomaterials Universities:**

KTH Royal University | Tissue Engineering Conferences 2019 | Imperial College London | ETH Zurich | University of Cambridge | KU Leuven | University of Groningen | Regenerative Medicine Conferences | Trinity College Dublin | University of Sheffield | Pompeu Fabra University | Sorbonne University | Charles University | University of Pardubice | University of Copenhagen | Aalto University | University of Grenoble | Lille University | University of Lyon | Chimie Paris tech | University of Poitiers | Tissue Engineering Conferences | University of Pau and Adour Country | University of Reims Champagne-Ardenne | University of Strasbourg | University in Aachen | University of Bayreuth | Technical University of Berlin | Ruhr University Bochum | Sapienza University of Rome | University of Navarra

**Asia Tissue Engineering & Biomaterials Universities:**

Nanyang Technological University | Tsinghua University | National University of Singapore | Peking University | University of Tokyo | Nanjing University | Kyoto University | Fudan University | University of Science and Technology of China | Osaka University | Korea Advanced Institute of Science and Technology | East China University of Science and Technology | Dalian University of Technology | Xiamen University | Jilin University | Nankai University | Tohoku University | National Taiwan University | Seoul National University | Shanghai Jiao Tong University | King Abdullah University of Science & Technology | Hong Kong University of Science and Technology | KAIST - Korea Advanced Institute of Science and Technology | City University of Hong Kong | Peking University | Chinese University of Hong Kong

**Middle East Tissue Engineering & Biomaterials Universities:**

Arabian Gulf University | Royal College of Surgeons in Ireland | Mohammed bin Rashid University | Jordan University of Science and Technology | Hashemite University | University of Jordan | Mutah University | Yarmouk University | Kuwait University | Oman Medical College | Sultan Qaboos University | King Saud bin Abdulaziz University for Health Sciences | Salman bin Abdulaziz University | Alfaisal University | Imam Muhammad ibn Saud Islamic University | King Abdulaziz University | King Saud University | University of Dammam | Al-Majmaah University | Maarefa Medical College | Dubai Medical College | Gulf Medical University | United Arab Emirates University | University of Sharjah | Ras al-Khaimah Medical and Health Sciences University | Masdar Institute of Science & Technology | Gulf Medical University | American University of Ras al Khaimah AURAK | Alhosn University | Canadian University of Dubai

**African Tissue Engineering & Biomaterials Universities:**

University of Cape Town | University of Pretoria | University of South Africa | University of the Witwatersrand | University of KwaZulu-Natal | Universities Stellenbosch | University of Johannesburg | North-West University | University of Nairobi | University of the Western Cape | The American University | University of Ibadan | Cairo University | Cape Peninsula University of Technology | Addis Ababa University | Egerton University | University of Ghana | University of Nigeria | Eduardo Mondlane University | University of Lago | Kenyatta University | Durban University of Technology | Covenant University | Kwame Nkrumah University of Science and Technology | Mansoura University | University of Dar es Salaam | Ahmadu Bello University | Ain Shams University | Jimma University and Ethiopia | Alexandria University

**Australian Tissue Engineering & Biomaterials Universities:**

Australian National University | Australian Catholic University | Australian National University | Carnegie Mellon University - Australia | Central Queensland University | Charles Darwin University | Charles Sturt University | Deakin University | Edith Cowan University | Federation University Australia | Flinders University | Griffith University | James Cook University | La Trobe University | Macquarie University | Monash University | Murdoch University | Queensland University of Technology

| Royal Melbourne Institute of Technology | Southern Cross University | The University of Notre Dame Australia | University of Queensland | University of South Australia | University of Southern Queensland | University of the Sunshine Coast | University of Sydney | University of Tasmania | University of Technology Sydney | The University of Western Australia | University of Wollongong | Western Sydney University | Victoria University

#### **LIST OF BIOMATERIALS & TISSUE ENGINEERING JOURNALS**

Journal of Cell Tissues Organs | Journal of Calcified Tissue Research | Journal of Cell and Tissue Biology | Journal of Cell Stem Cell | Journal of Cell and Tissue Research | Journal of Cellular Therapy and Transplantation | Journal of Hard Tissue Biology | Journal of Tissue Science | Journal Of Tissue Engineering | Journal of Tissue Antigens | Journal of Tissue and Cell | Regenerative Medicine Conferences | Journal of Tissue World | Journal of Cell Biology | Journal of Toxicology | Journal of Cell Transplantation | Journal of Cell Metabolism | Journal of Cellular Biology Research | Journal of Molecular Biology Research | Journal of Regenerative Medicine | Journal of Stem Cells | Journal of Stem cells and Development | Journal of Biomaterials | Biomaterial Conferences 2019 | Journal of Biomaterials and Tissue Engineering | Journal of Stem Cells and Regenerative

Medicines | Journal of Cell Regeneration | Journal of European Cells and Materials | Journal of Nature Cell Biology | Journal of Molecular Cell | Journal of Trends in Cell Biology | Cell Therapy Conferences | Journal of BMC Biology

#### **TISSUE ENGINEERING & BIOMATERIALS ASSOCIATIONS**

Boston Children's Hospital | Cincinnati Children's Hospital | Tissue Engineering Conferences | Nationwide Children's Hospital | University of Pittsburgh Medical Center (UPMC) | Alta Bates Summit Medical Center | Center for Stem Cell and Regenerative Medicine | Regenerative Medicine Conferences 2019 | Infinity Clinic | Unique Cell Treatment Clinic | EmCell Clinic | German International Clinic | First Bio Dent-Clinic | Kolan Hospital Group | Placid Way Germany Medical | National Center for Regenerative Medicine | Stem Cell Therapy for Diabetes

#### **TISSUE ENGINEERING & BIOMATERIALS SOCIETIES**

European Tissue Engineering Society (ETES) | European Tissue Repair Society | UK society for Biomaterials | British Society for Gene and Cell Therapy | Japanese Society for Regenerative Medicine | European Society of Regenerative Medicine | European Society of Gene and Cell Therapy (ESGCT) | International Society for Cellular Therapy (ISCT) | International Stem Cell Society | Cancer Stem Cell Society | European Society of Stem Cell Biology | IPLASS International Placenta Stem Cell Society