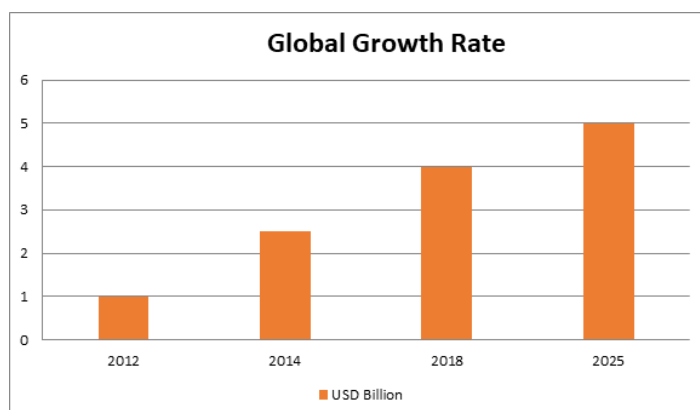


## 3<sup>rd</sup> International Conference on Molecular Biology and Stem Cells

Alexander Seifalian

In 2016, the global market size of [molecular biology](#) enzymes and kits & reagents was valued at USD 5.77 billion and is expected to witness a CAGR of 19.0 percent over the forecast period. One of the key factors responsible for the gush in demand for [molecular biology](#) enzymes, kits and reagents was the expansion of end-user research activities. The genomics market is expected to hit \$22.10

At the same time, the Division of Personalized Medicine based on genomics is expected to sprout from 2013 to 2020 at a CAGR of more than 13.0 percent due to increased demand for population-based therapeutic solutions through increased research and development initiatives. Advances in the engineering of molecular biology enzymes, kits and reagents are one of the key growth factors. These advanced products are designed to make research processes easier by offering increased efficiency and higher accuracy.



The global market for [molecular diagnostics](#) is ready to exceed 12.5 billion dollars by 2024. The global MRI systems market was 4.9 billion in 2012. In 2013, this demand will hit USD 5.4 billion and USD 6.9 billion by 2018, with an annual compound growth rate (CAGR) of 5 percent from 2013 to 2018. The global MID (Molecular Imaging Device) market shows promising growth from \$2 billion in 2012 to \$3 billion in 2018, with an unprecedented 6.2 percent increase in CAGR within the stipulated period.

It is anticipated that the global [stem cell](#) market will grow at an unprecedented 25.5 percent CAGR from 2015 to 2022 and hit a market value of US\$ 297 billion by 2022. The emergence of Induced Pluripotent Stem Cells as an alternative to ESCs (embryonic stem cells), the growth of developing markets, and the development of new [stem cell](#) therapies are promising growth opportunities for major players in this industry.

### Importance and scope

[Molecular biology](#) is a biology bifurcate that deals with replication,

transcription, and translation studies. The central dogma of molecular biology is the manufacture of protein by DNA RNA and RNA. The conference's goal is to build a bond between biochemistry and biotechnology researchers. Due to the high demand for various chemicals such as ethanol, butanol, glycerol, acetone and so on, the fermentation technology industry developed rapidly during the 19th century.

The recent progress in the fermentation process through its association with chemicals has led to a new age. Large protein and enzyme manufacturing can be carried out with the application of bioprocess technology in fermentation. Pertaining the principles of biology, chemistry, and engineering sciences, processes are prospered to devise large quantities of chemicals, antibiotics, proteins, and enzymes in a thrifty manner. This promoted the division of Molecular Biology into disparate areas such as Agricultural Molecular Biology, Medical or Pharmaceutical Molecular Biology, Industrial [Molecular Biology](#) and Environmental [Molecular Biology](#).

Because of their prospective to regenerate and repair damaged tissue, [stem cells](#) are an exciting area in medicine. Present therapies such as bone marrow transplantation are used to regenerate damaged tissues by stem cells and their prospects. In the 3- to 5-day-old embryo, called a blastocyst, the internal cells give rise to the whole organism's body, including all the most different types of cells and organs such as the lungs, heart, sperm, etc. Stem cells offer new opportunities for treating diseases such as diabetes and heart disease for their distinctive regeneration capabilities.

### Europe Market

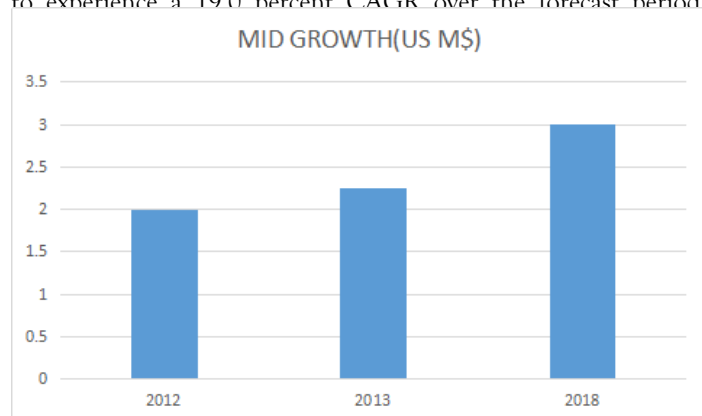
As a continent, Europe's economy and wealth is the immense on Earth at the moment, and it is the opulent region examined by assets under management with more than \$32.7 trillion compared to the \$27.1 trillion North America's 2008. Europe remained the richest region in 2009. It is \$37.1 trillion in assets under management constituted one-third of the world's prosperity. It was one of diverse region

Accompanied by other continents, Europe's wealth among its countries varies widely. Some of the Central and Eastern European economies are still transpiring from the collapse of the Soviet Union and the break-up of Yugoslavia, the richest states are inclined to be in the West. The wealthy per capita GDP is Monaco with US\$ 172,675 (2009) per person and the destitute is Moldova with US\$ 1,631 (2010) per capita GDP. According to the World Bank report, Monaco is the world's richest country in terms of GDP per capita.

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In 2016, the market size of [Molecular Biology Enzymes And Kits & Reagents](#) was estimated at \$5.77 billion and is projected to experience a 19.0 percent CAGR over the forecast period.



[Stem Cells](#) Market in Europe was \$2,957.5 million in 2016 and will reach \$5,642.4 million by 2022 with a CAGR of 11.7%. In 2016, allogeneic stem cell therapy holds the largest market share. Due to the large amount of research and development that is being done, the market will rise rapidly. One of the most promising markets in life sciences now is the global stem cell market and is expected to rise rapidly in the years ahead, as stem cells allow for cost-effective treatment of many diseases that currently have no or inadequate treatment. Perhaps the most common use of [stem cells](#) is regenerative medicine, and other important areas include oncology, haematology, orthopaedics, cardiology and neurology.

Another common use is the discovery and development of medicines. [Stem cells](#) are a kind of research tool, as their in vitro study would allow scientists to gain a thorough understanding of the role of different organs and the development of notable

disorders, stem cells could allow drug developers to test rooting therapies on diseased cells. [Stem cell](#) therapy has demonstrated great promise for treatment.

#### Top Universities in Europe:

- Heidelberg University
- University of Bonn
- Universite Sorbonne Paris Cite-USPC
- University of Strasbourg
- University of Milan

#### Major Molecular Biology and Stem Cells Associations & Societies in Europe:

- European Molecular Biology Organization
- Federation of European Biochemical Societies
- European Society of Human Genetics
- European Genetics Foundation
- Dutch Association of Clinical Genetics
- The European Association of Nuclear Medicine (EANM)
- European Proteomics Association
- German Society for Human Genetics
- Danish Stem Cell Society (DASCS)
- German Stem Cell Network (GSCN)
- German Society for Stem Cell Research (GSZ)