Importance and Scope:

The term Materials Chemistry covers various chemical sciences such as inorganic, organic, physical and chemical engineering in which information about the scope of the newly emerging discipline of materials was assembled, collated, and disseminated leading to an authoritative definition of the subject. However the presence of "chemistry" indicates the design, synthesis, processing and utilization of materials. The objective was not so much to produce lists of specific topics or categories of compounds and phenomena, which would quickly become out of date, but to establish some principles that could be deployed by IUPAC and the chemical community. It was recently established that materials with completely new properties can be made using nanoscale manipulation. This poses a major challenge to basic research, but nanoeffects also provide interesting perspectives for new industrial processes and applications. In general, emphasis is placed on the interdisciplinary nature of materials science and issues at the forefront of the field, such as energy and environmental issues, as well as medical and bioengineering applications.

Materials scientists and engineers work in materials process engineering, research and development, quality, technical support, management, technical sales and marketing, and more. Employers range from primary material producers and refiners to utility providers, the transport industry, the defence force, universities, research institutions and multinational technical consultancy firms. There are a multitude of opportunities for scientific and commercial endeavour in the areas of forensics, bio-materials, electronic devices, nano-materials, the environment as well as new and innovative materials and processes.

Why it's in Berlin, Germany:

Germany's chemical industry is number one in Europe. As the industry employs almost half a million highly trained staff makes the industry a driving force for innovation. By developing new materials, active pharmaceutical ingredients and high-performance chemicals and plastics, the chemical industry sets the benchmarks for advancing state-of-the-art technologies. This creates benefits for a number of different fields such as energy efficiency, renewables, energy storage, and mobility. Leading international chemical firms choose to locate in Germany. Germany's central geographical location at the heart of Europe provides a further decisive advantage, giving access to a market of more than 500 million customers in the European Union.

The chemical sector has become one of the basic pillars of the German economy, and is made up of more than 2,000 companies employing approx. 325,000 people. Nearly 60% of the total revenue of around EUR 145 billion is generated abroad. Germany was the fourth largest producer in Europe (after France, Italy and the United Kingdom).

The German chemical industry was well established, for the most part highly integrated and networked structure. In total it manufactures more than 30,000 different chemicals. The main products are petrochemicals at 32% of total turnover (2013), followed by fine and special

chemicals (26%), polymers (23%), in addition to inorganic basic chemicals (10%), and detergents and personal hygiene products (9%).

Almost 17000 experts work currently in more than 100 companies of the chemical industry in Berlin. About 3000 students are studying chemistry at one of the capital region universities or universities of applied sciences whose academicals qualities are highly estimated in a Germany-wide comparison. In research and development, Berlin-Brandenburg is quantitatively and qualitatively a heavy weight in Europe: 11 universities, 17 universities of applied sciences, more than 180000 students, and over 250 private and public institutes form a dense network of an infrastructure with practical orientation from which chemicals companies can profit.

Conference Highlights:

Materials Science and Engineering

Materials Chemistry in Developing Areas

Formulating Materials Chemistry

Materials Synthesis and Characterization

Insilico Materials Chemistry

Regenerative Materials Chemistry

Polymer Materials and Technology

Applied Materials Chemistry

Materials Chemistry and Physics

Nanomaterials

Current Innovations in Materials Chemistry

Research Aspects of Materials Chemistry

Role of Graphene in Advanced Materials

Why to attend:

To have a broader view on the materials used in case of manufacturing different chemicals, pharmaceuticals, and the innovative methods employed for their development and processing in various fields of materials science. The current conference also deals with the advanced technologies like nanostructures, microstructures which distend the growth in formulating new medicines thereby promoting healthcare. It not only gives an idea on the materials but also creates a unique approach towards novel strategies.

Famous Chemists across the globe:

Charles M. LIEBER, Harvard University

Omar M. YAGHI, University of California Los Angeles

Michael O'KEEFFE, Arizona State University

K. Barry SHARPLESS, Scripps Research Institute

A. Paul ALIVISATOS, University of California Berkeley

Richard E. SMALLEY, Formerly Rice University

Hongjie DAI, Stanford University

Xiaogang PENG, University of Arkansas

Valery V. FOKIN, Scripps Research Institute

Peidong YANG, University of California Berkeley

Famous Chemists in Germany:

Albertus Magnus

John Polanyi

George de Hevesy

Gerhard Ertl

Carl Reichenbach

Fritz Haber

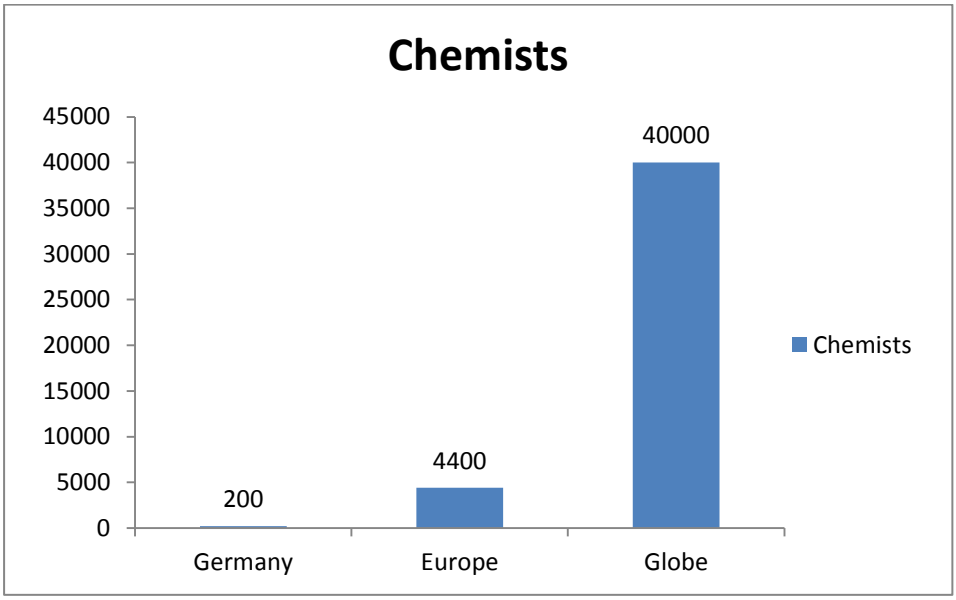
Magnus von Braun

Gerhard Herzberg

Karl Wilhelm von Kupffer

Robert Bunsen

Statistical Analysis of Chemists:



International Chemistry Associations:

Cooperation on International Traceability in Analytical Chemistry

Electrochemical Society

European Association for Chemical and Molecular Sciences

European Colloid and Interface Society

European Federation for Medicinal Chemistry

European Federation of Chemical Engineering

European Precious Metals Federation

Federation of Asian Chemical Societies

International Association of Catalysis Societies

International Association of Nanotechnology

Chemical Societies in Germany:

German Chemical Society

German Bunsen Society for Physical Chemistry

German Society for Mass Spectrometry

German Society for Clinical Chemistry and Laboratory Medicine

Society for Biochemistry and Molecular Biology

Association of Electrochemical Research Institutions

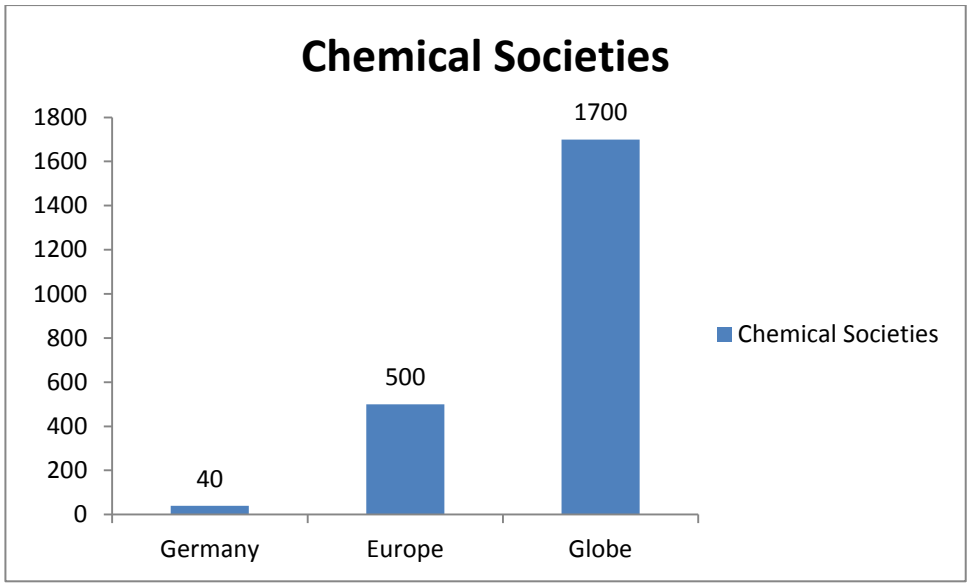
The Colloid Society

German Catalysis Society

Society for Chemical Engineering and Biotechnology

German Chemical Industry Association E.V

Statistical Analysis of Chemical Societies:



Top Chemical Industries across the globe:

BASF, Ludwigshafen, Germany

Sinopec, Beijing, China

Dow Chemical, Midland, USA

SABIC, Riyadh, Saudi Arabia

Royal Dutch Shell, The Hague, Netherlands

ExxonMobil, Irving, USA

Formosa Plastics, Taipei, Taiwan

Lyondell Basell, Houston, USA

DuPont, Wilmington, USA

Ineos, Rolle, Switzerland

Mitsubishi Chemical, Tokyo, Japan

Bayer, Leverkusen, Germany

LG Chem, Seoul, South Korea

Akzo Nobel, Amsterdam, Netherlands

Air Liquide, Paris, France

Mitsui Chemicals, Tokyo, Japan

The Linde Group, Munich, Germany

Reliance Industries, Mumbai, India

Top Chemical Industries in Germany:

Livchem Logistics GmbH, Frankfurt

BIOLOG, Bremen

Karl H. Boddin Chemiehandel GmbH, Hamburg

HANSA FINE CHEMICALS GmbH, Bremen

Pharma Waldhof GmbH, Düsseldorf

Trigona GmbH, Wiesbaden

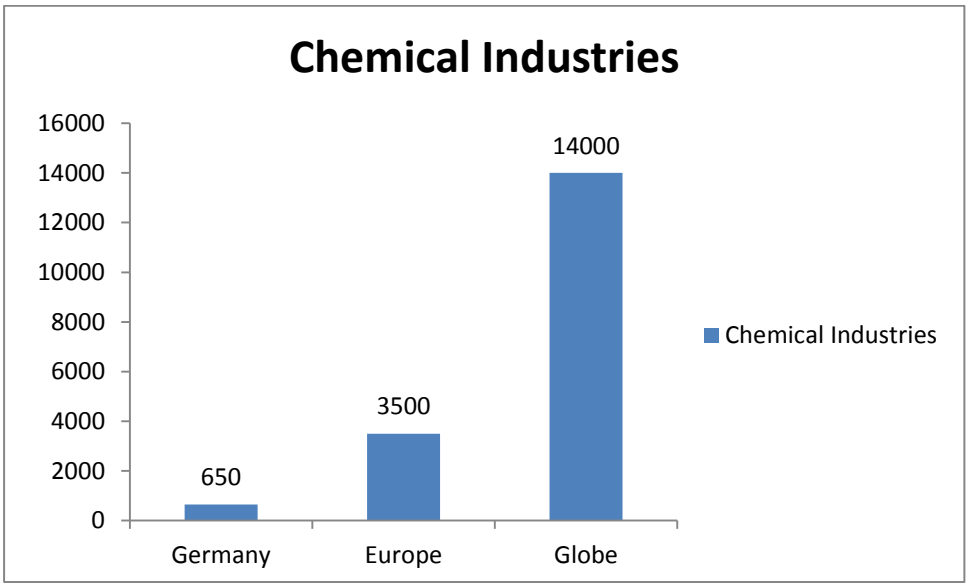
Rockwoodlithium, Frankfurt

Allweys LLC, Hanover

Fangda Metals & Minerals GmbH, Düsseldorf

ARPZ GmbH, Hamburg

Statistical Analysis of Chemical Industries:



Worldwide Top Chemical Universities:

Massachusetts Institute of Technology, United States

University of California, Berkeley, United States

University of Cambridge, United Kingdom

Harvard University, United States

Stanford University, United States

University of Oxford, United Kingdom

Swiss Federal Institute of Technology, Switzerland

California Institute of Technology, United States

The University of Tokyo, Japan

University of California, Los Angeles, United States

Imperial College London, United Kingdom

National University of Singapore, Singapore

Top German Chemical Universities:

Technical University of Munich

RWTH Aachen University

Karlsruhe Institute of Technology

University of Hamburg

University of Jena

University of Duesseldorf

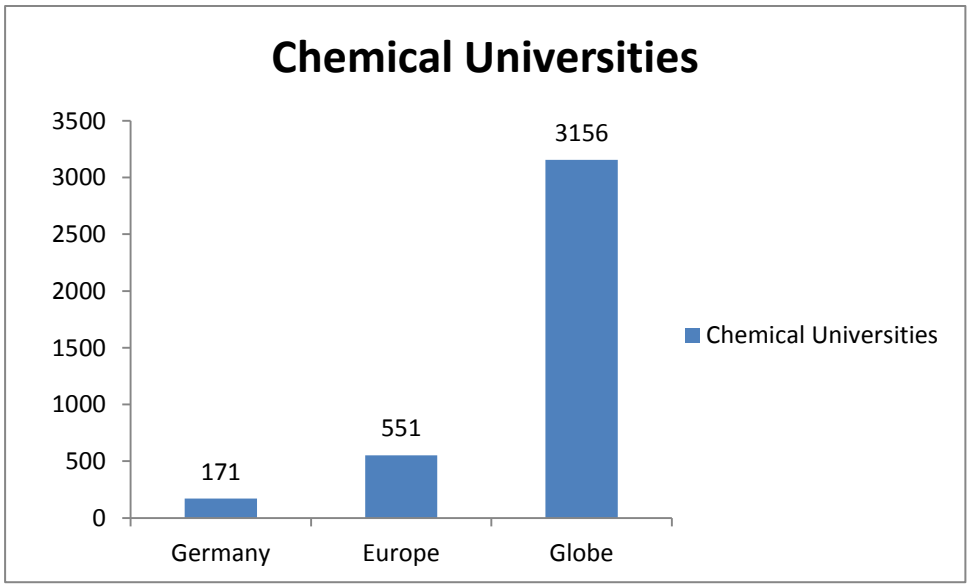
University of Konstanz

Ulm University

University of Cologne

TU Dortmund University

Statistical Analysis of Chemical Universities:



Global Market Value on Materials Chemistry:

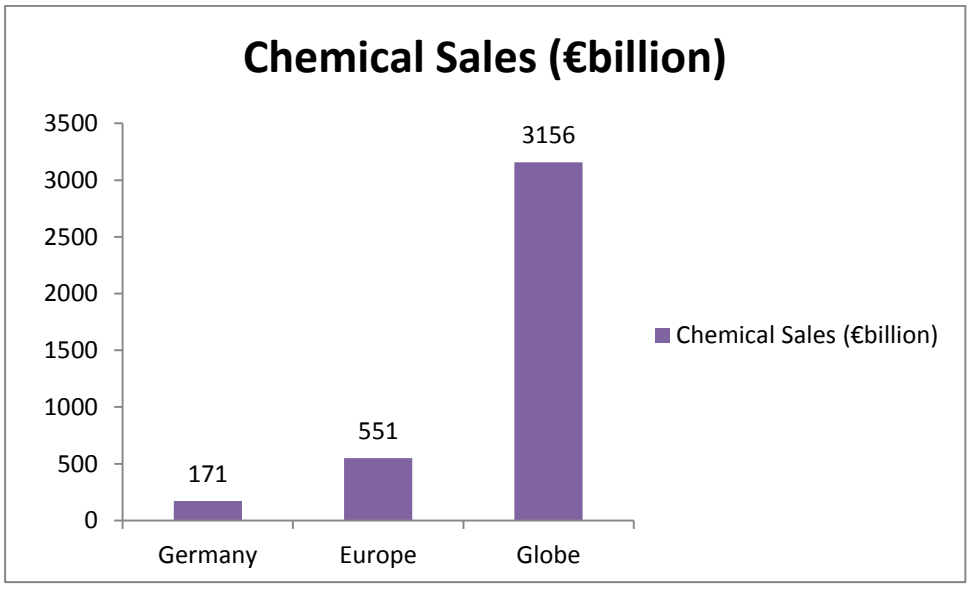
World chemicals turnover was valued at €3,156 billion in 2013. This marks a slow recovery of the chemical industry compared with 2012. Global sales grew by 2.4 per cent from €3,084 billion in 2012 to €3,156 billion in 2013.The sales growth rate was considerably lower compared to the 10 year trend, when average annual sales expanded by 10.3 per cent from 2003 to 2012.World chemicals sales in 2013 grew by nearly €73 billion compared with 2012, marking a modest recovery in the world chemical industry.

Statistical Analysis show that the chemical market size of various fields like Aerospace Adhesives & Sealants, High-Performance Insulation Materials, Food Grade Lubricants, Antimicrobial Additives, Biolubricants, Protective Coatings, Gas Analyzer, Sensor & Detector, Elastomeric Coating, Plastic Coatings, Rapid Prototyping Materials, Hydrophilic Coating and so on is projected to reach an average of USD 10 Billion by 2021, registering an average CAGR of 7% between 2016 and 2021.

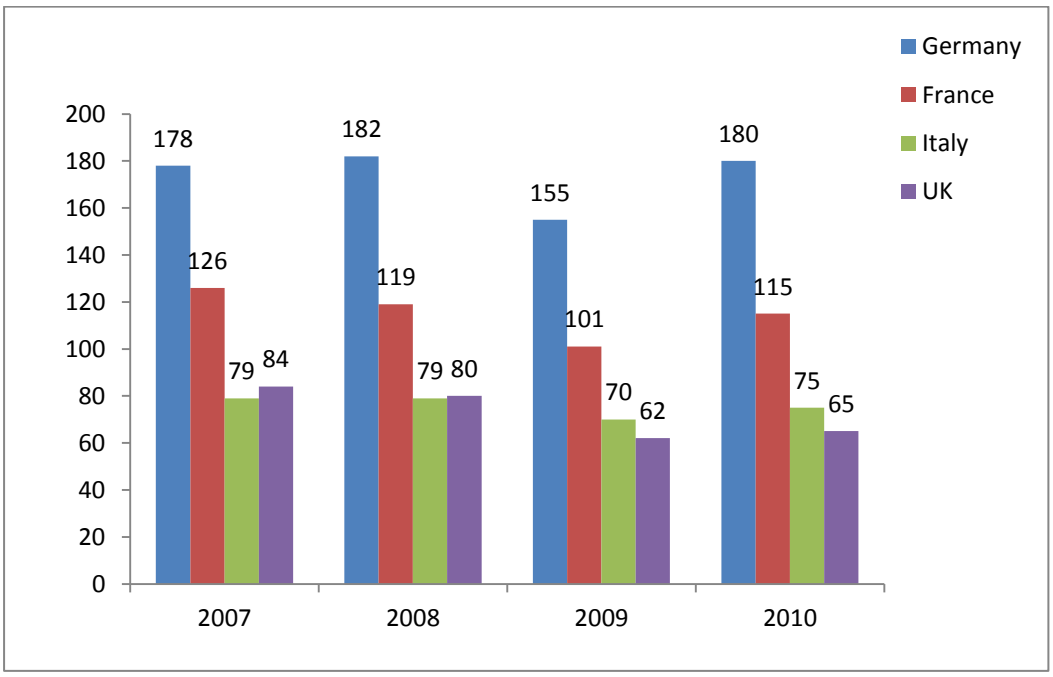
German Market value on Materials Chemistry:

During the period 1960 to 2010, chemical industry revenue in Germany increased from EUR 12 to EUR 171 billion (according to Feri AG and the German Chemical Industry Association-VCI); resulting in an average nominal growth rate of 5.4 per cent per year (real growth rate: 3.1 per cent per annum). Over the same period, the number of employees decreased from 458,000 to 415,000; increasing productivity sixteen-fold indicated by revenue per employee levels of EUR 412,000 in 2010.

Statistical Analysis of Chemical Sales:



Statistical Analysis of European Chemical Sales:



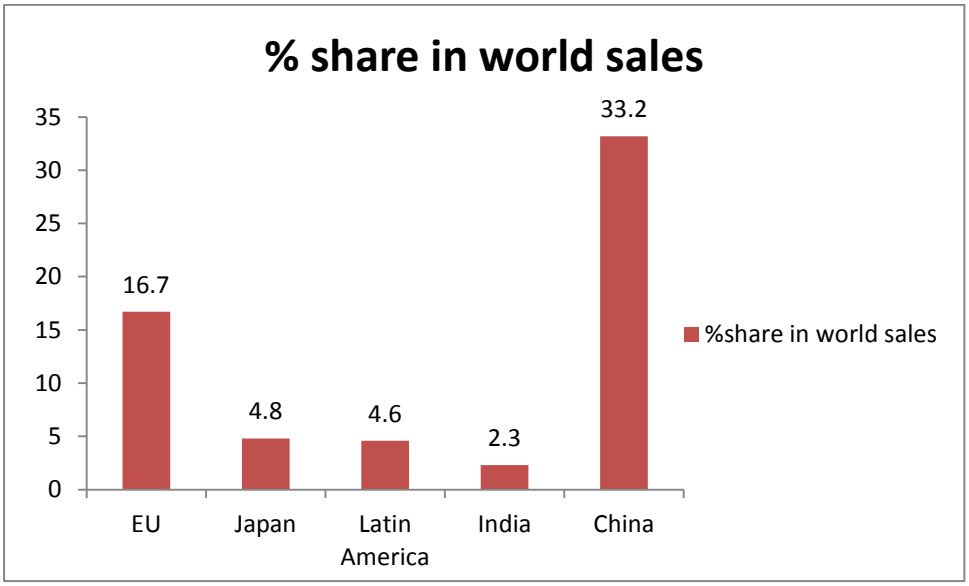
Worldwide Chemical Market Growth:

During the period from 2003 to 2013, the European Union gradually lost its top spot in world chemicals sales to China and the rest of Asia (excluding Japan). The EU contribution to world chemicals sales between 2003 and 2013 dropped by 14.5 percentage points from 31.2 per cent in 2003 to 16.7 per cent in 2013. The NAFTA contribution to world chemicals sales also decreased from 25.9 per cent in 2003 to 16.7 per cent in 2013. Japan showed a less pronounced decline of its chemicals sales contribution during the 11-year period. The total value of sales in the European Union has been continuously growing, but overall world chemicals sales have outpaced that rate of growth. World chemicals sales increased by 2.4 times in value terms in 2013 compared with 2003. China's share of world chemicals market sales in 2013 swelled to 33.2 per cent, nearly a fourfold increase on 2003 when the country held an 8.7 per cent share. Taking advantage of emerging market opportunities will require EU leadership in creating competitive framework conditions that enhance the global position of European chemicals.

German Chemical Market:

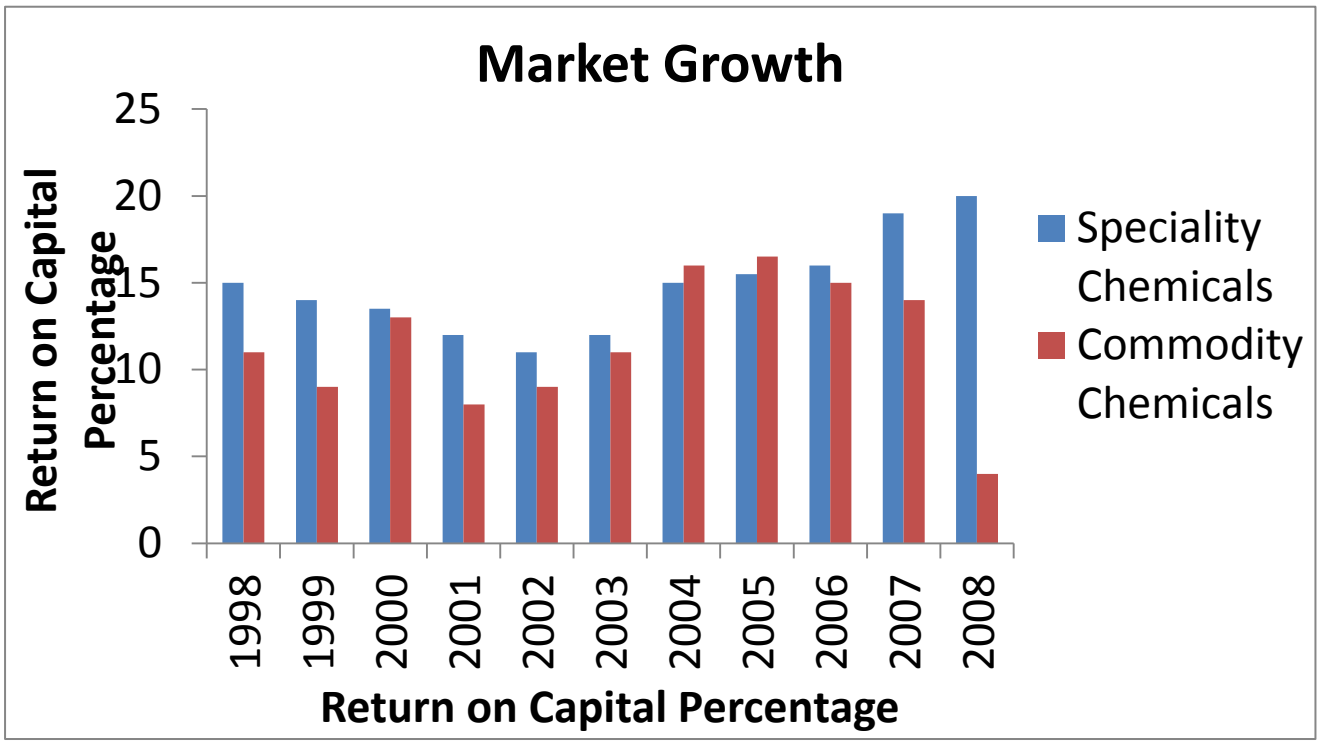
EU chemicals output shrank by just 0.7% in the first four months of 2016 compared to one year ago, according to the latest statistical analysis. Producer prices fell 3.8 per cent during the same period, while sales declined 3.1 per cent during the first quarter of 2016, compared to the same period of 2015. Capacity utilisation remained unchanged in the first quarter of 2016, much closer to its long-term average. Employment improved slightly in the first quarter

of 2016 compared to the fourth quarter of 2015. The EU net trade surplus was €9.8 billion for the first quarter of 2016, up by €0.3 billion compared to the first quarter of 2015.



Market Growth before 10 years:

To gain deeper insights into the performance of the chemical industry, the analysis shows that the falling margins across sectors are a contributing factor, with the commodity chemicals sector experiencing the sharpest decline-19 percent between 1998 and 2008. Gross margin in the speciality chemicals sector fell 4.8 percent between 1998 and 2008.



Market Growth in the Upcoming 10 years:

Since the mid-1980s, the global chemical industry has grown by 7 percent annually, reaching 2.4 trillion in 2010. Most of the growth in the past 25 years has been driven by Asia, which now owns almost half of global chemical sales. If current trends continue, global chemical markets are expected to grow an average 3 percent in the next 20 years, mostly pushed by the major players in Asia and the Middle East.

Sixty-six percent of global chemical sales in 2030 will be in Asia, according to current growth patterns. The rise of emerging players, especially in Asia and in the Middle East, has lead to the deconsolidation of the chemical industry.

Chemical R&D Revenue:

The forecast for R&D growth in the chemical and advanced materials industry reflects the improving global economy and the key markets the industry serves. U.S. R&D spending in chemicals and advanced materials is forecast to grow by 3.6% to reach $12 billion in 2014. Overall global R&D is forecast to grow at a slightly higher 4.7% rate to $45 billion in 2014. The R&D activities within the chemical and advanced materials industry reflects improvements in the U.S. and global economy, and the role this industry plays in support of other demand-driven industries. We forecast U.S. chemical and advanced materials R&D to increase by 3.6% in 2014, reaching $12.2 billion. Worldwide R&D is expected to increase by 4.7% to $45.3 billion.

