CWC and industry: 10 years on and beyond

Neil Harvey, WMD Issue Leader, Cefic
International Council of Chemical Associations (ICCA)

1. North American Council of Chemical Associations
   USA, Mexico, Canada

2. South America
   Brazil, Argentina, Uruguay, Chile

3. Japan

4. Australasia
   Australia, New Zealand

5. South Africa

6. Europe (CEFIC)
   (26 European Countries) homepage: www.icca-chem.org
European Chemical Industry Council (Cefic)

- about 28,000 small, medium and big chemical companies in Europe
- about 1.2 million employees
- about 30% of worldwide chemical production
- headquarters of Cefic is Brussels
- homepage: www.cefic.be
The Chemical industry: Adding value to natural raw materials

Raw Materials ca 10
Base Chemicals ca 20
Intermediates ca 300
Consumer products ca 30,000

Oil, gas, biomass, rock, salt, air, water, sulphur, sand

Ethylene, propylene, chlorine, methanol, ammonia, benzene, sulphuric acid, caustic

Acetic acid, ethylene oxide, phenol, terephthalic acid, acrylonitrile

Plastics, detergents, solvents, fibres, pharmaceuticals, insecticides, dyes
## Coverage of chemicals sector

<table>
<thead>
<tr>
<th>Industrial gases</th>
<th>Pharmaceuticals</th>
</tr>
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<tbody>
<tr>
<td>Dyes &amp; pigments</td>
<td>Detergents and surfactants</td>
</tr>
<tr>
<td>Basic inorganic chemicals</td>
<td>Explosives</td>
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<tr>
<td>Bulk organic chemicals</td>
<td>Adhesives &amp; sealants</td>
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<tr>
<td>Semi-bulk or intermediate chemicals</td>
<td>Aromas &amp; flavourings</td>
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<tr>
<td>Polymers (plastics &amp; rubber)</td>
<td>Photographic chemicals</td>
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<tr>
<td>Resins</td>
<td>Leather chemicals</td>
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<tr>
<td>Agrochemicals</td>
<td>Lubricating oil additives</td>
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<tr>
<td>Paints, coatings, inks</td>
<td>Catalysts</td>
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<td>Water treatment</td>
<td>Silicones</td>
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<td>Fire retardants</td>
<td>Biocides</td>
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<tr>
<td>Oilfield chemicals</td>
<td>Synthetic fibres</td>
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<tr>
<td>Packaging films and tapes</td>
<td>Performance chemicals</td>
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</tbody>
</table>
Responsible Care®

Responsible Care promotes co-operation with governments and organisations in the development and implementation of effective regulations and standards, and helps companies meet or exceed these requirements.
EU chemical industry sales structure by destination (%)
### Trade Competitiveness Analysis: Change in trade surplus and competitive advantage

**Trade** = Exports + imports  
**Balance** = Exports - Imports  
**TCI:** Trade Competitiveness Indicator  
= Balance/Trade

#### Delta Analysis

<table>
<thead>
<tr>
<th>Delta</th>
<th>Overall Chemicals</th>
<th>Chemicals</th>
<th>Basic Inorganics</th>
<th>Organics</th>
<th>Pharmaceuticals</th>
<th>Specialties</th>
<th>Consumer Chemicals</th>
<th>Polymers</th>
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<tbody>
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<td>Total</td>
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</table>

- **++** EU is increased its surplus and improved its healthy competitive position  
- **+-** EU is still generating a trade surplus but reduced its positive competitive position  
- **-+** EU is still generating a trade deficit but improved its weak competition position  
- **--** EU is increased its trade deficit and weakening its competitive position

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Note: The table above illustrates the change in trade competitiveness for various regions and product categories. The colors indicate the level of change, with green indicating an increase, blue indicating a decrease, and red indicating a negative change.
World chemicals sales in 2006 are estimated at €1641 billion
The EU accounts for 29% of the total

Source: Cefic Chemdata International
Others* = Oceania and Africa
Rest of Europe** = Switzerland, Norway and other Central & Eastern Europe (excluding the new EU 10 countries)
Market Trends - Globalisation

• “World-scale” plants

• High degree of standardisation

• Increase in trade volume

• Production in non-traditional countries

• Sourcing, production and trade is global

• More specialist production in the most economically developed countries
New chemicals producing regions emerging (excluding pharmaceuticals)

- Rest of the World
- Japan
- China
- Asia*)
- Latin America
- North America
- Rest of Europe
- EU 25

*) Asia excluding Japan and China

Source: Cefic, ACC, VCI and Global Insight
Regional shares in world chemical production*

1996: € 962 billion

- EU - 25: 32.5%
- Asia excl. Japan: 14.4%
- Japan: 14.5%
- NAFTA: 27.1%
- Others: 11.5%

2006: € 1641 billion

- EU - 25: 29.0%
- Asia excl. Japan: 24.3%
- Japan: 8.9%
- NAFTA: 25.4%
- Others: 12.4%

Data Source: Cefic Chemdata International

*excluding pharmaceuticals
## Change in Share of World Chemicals Exports

<table>
<thead>
<tr>
<th></th>
<th>1990</th>
<th>2005</th>
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<tbody>
<tr>
<td>Developed countries’ share of world chemical exports</td>
<td>83.5%</td>
<td>75%</td>
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<tr>
<td>Developing countries’ share of world chemical exports</td>
<td>16.5%</td>
<td>25%</td>
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<tr>
<td>World chemical exports (billions)</td>
<td>$308.8</td>
<td>$570.2</td>
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</tbody>
</table>
Consumer spending will shift to emerging markets

2015: Total = 2.02 billion consumers (29 % world population)

- United States: 284 million consumers
- Germany: 76 million consumers
- China: 700 million consumers
- Japan: 112 million consumers

Source: World Bank, EIU, US Census Bureau
Migration of Western industry production to emerging countries

Status 2003

- 29% ROW
- 24% Developed
- 18% Emerging
- $10.0 tn*

2015 Base Case Scenario

- 28% Emerging
- 20% ROW
- 16% Developed
- $14.3 tn*

* industry value added real, prices and exchange rates constant at 2000 levels

Shift from developed countries to emerging countries
- From Western Europe to Eastern Europe and/or to Asia (especially China)
- From USA to Asia (especially China)

Major driving forces: Labour costs and market growth in emerging countries

Source: BASF
Key factors affecting the pace of globalisation
Consequences of globalisation for CWC and Dual-use items control

• Chemical industry production and trade outside traditional chemical producing areas is increasing
• Addition of mass chemicals to export control lists is useless if no such control is applied on other key producing countries
• Better implementation of the CWC and achieving of key purpose and object remain essential before stepping up control of control on industry (e.g. introduction of sampling & analysis)
• Global trade makes compliance with differing mixtures rules problematic for industry
Balanced trade controls

• Chemical industry subject to many trade and production control regimes (Chemical Weapons Convention, Australia Group, drug precursors, Montreal Protocol, Dual Use/UN Resolution 1540)

• ICCA agrees with controls - provided these are instrumental and proportionate to the objectives pursued

• Work with national authorities when dealing with suspicious enquiries

• ICCA strongly stresses the need for minimal trade restrictions on a global level playing field
SAICM

• Strategic Approach to International Chemicals Management

• http://www.chem.unep.ch/saicm/
Extending industry compliance

- OPCW handbook for industry
- Introduce e-Learning tools for industry
Summary

• The worldwide chemical industry fully supports the goals and objectives of governments with regard to the Chemical Weapons Convention and the non-proliferation of WMD and wants to be a partner for implementation of trade & production control regimes

• In new chemical producing regions national controls companies may not be aware of their CWC responsibilities and may lack internal compliance programmes and standards that are applied in regions with an established chemicals industry

• Chemical federations play a supporting role in promoting good practice through programmes such as Responsible Care, Voluntary Codes of Conduct, Memoranda of Understanding, etc.

• But OPCW can help through e-Learning tools and handbook