Project “Promoting the advantages of investing in Bulgaria” BG 161PO003-4.1.01-0001-C0001, with beneficiary InvestBulgaria Agency, has been implemented with the financial support of the European Union through the European Fund for Regional Development and the national budget of the Republic of Bulgaria.
This Chemistry and Related Industries brochure discusses the following sectors:

- Manufacture of Chemicals and Chemical Products
- Manufacture of Rubber and Plastic Products
- Manufacture of Paper and Paper Products
- Manufacture of Other Non-Metallic Mineral Products

The subsectors Pharmacy and Cosmetics are addressed in the Bulgaria Overview brochure.
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Due to its favorable geographic location, Bulgaria exports chemical products to many markets across five continents.

Exports of phosphorus and nitrogen fertilizers register annual growth at 27% in 2011.

In the period before 1989, the country was a leader in the manufacture of chemical products such as soda ash, phosphorus and nitrogen fertilizers and medicinal products.

Bulgaria hosts Europe’s biggest synthetic soda ash plant.

Companies such as Solvay, Şişecam Group, Saint Gobain, Air Liquide, Italcementi Group, Lukoil develop successful business in the country.
Many investors in the sector highlight the existence of natural raw materials as one of Bulgaria’s biggest advantages.

The country has rich reserves and fields of salt, sand, clay, limestone, kaolin, in proximity to existing industrial areas and complexes.

Bulgaria combines highly qualified professionals in the sector with competitive prices of labor and high relative labor productivity.

Over 7000 university students graduate annually in courses relevant to the needs of Chemistry and Related Industries.

Readily available facilities and huge unrealized/untapped potential in the sector open up vast opportunities for business development.

The country has well-developed electricity and gas networks.
Bulgaria has experienced rapid economic growth over the last years coupled with strong fiscal performance:

- South-East Europe – a 122 million inhabitant, high growth market
- European Union - Bulgaria offers the lowest cost access to a market of 500 million people
- Russia/CIS, Middle East and North Africa

Bulgaria offers a combination of political and macroeconomic stability and incentives for doing business:

- Stable parliamentary democracy, EU, NATO and WTO member
- Bulgaria’s currency is fixed to the Euro under a currency board arrangement
- Lowest tax rate and one of the lowest labour costs in the EU coupled with special incentives for investors
- EU funding – more than €10 bln in EU funds over the next years
### Bulgaria: Summary Statistics

<table>
<thead>
<tr>
<th>Category</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population</td>
<td>7.4 million</td>
</tr>
<tr>
<td>Labour force</td>
<td>4.6 million</td>
</tr>
<tr>
<td>Urban Population</td>
<td>73%</td>
</tr>
<tr>
<td>Capital</td>
<td>Sofia</td>
</tr>
<tr>
<td>Time zone</td>
<td>EET (UTC+2)</td>
</tr>
<tr>
<td>Summer (DST)</td>
<td>EEST (UTC+3)</td>
</tr>
<tr>
<td>Total area</td>
<td>110 879 sq. km</td>
</tr>
<tr>
<td>Land area</td>
<td>108 489 sq. km</td>
</tr>
<tr>
<td>Water area</td>
<td>2 390 sq. km</td>
</tr>
<tr>
<td>Climate</td>
<td>temperate</td>
</tr>
<tr>
<td>Languages</td>
<td></td>
</tr>
<tr>
<td>Bulgarian (official)</td>
<td>85.2%</td>
</tr>
<tr>
<td>Turkish</td>
<td>9.1%</td>
</tr>
<tr>
<td>Roma</td>
<td>4.2%</td>
</tr>
<tr>
<td>English, German, Russian, French</td>
<td>widely spoken</td>
</tr>
<tr>
<td>Religions</td>
<td></td>
</tr>
<tr>
<td>Christian Orthodox</td>
<td>76%</td>
</tr>
<tr>
<td>Muslim</td>
<td>10%</td>
</tr>
<tr>
<td>Other</td>
<td>14%</td>
</tr>
<tr>
<td>Currency</td>
<td>Lev (BGN)</td>
</tr>
<tr>
<td>Fixed exchange rate</td>
<td>€1 = BGN 1.95583</td>
</tr>
<tr>
<td>Corporate income tax</td>
<td>10%</td>
</tr>
<tr>
<td>Personal income tax</td>
<td>10%</td>
</tr>
<tr>
<td>VAT (standard)</td>
<td>20%</td>
</tr>
<tr>
<td>Government type</td>
<td>Parliamentary Democracy</td>
</tr>
<tr>
<td>Supreme legislative power</td>
<td>Unicameral 240-seat National Assembly</td>
</tr>
<tr>
<td>Executive state body</td>
<td>Council of Ministers, head: Prime Minister</td>
</tr>
</tbody>
</table>

Source: Bulgarian National Bank, National Statistical Institute
Bulgaria has exemplary macroeconomic fundamentals

<table>
<thead>
<tr>
<th>2011 Economic Snapshot:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP (€ bn):</td>
<td>38.5</td>
</tr>
<tr>
<td>Exports (€ bn):</td>
<td>25.6</td>
</tr>
<tr>
<td>Net FDI* (% of GDP):</td>
<td>3.5</td>
</tr>
<tr>
<td>GDP growth (%):</td>
<td>1.7</td>
</tr>
<tr>
<td>Unemployment (%):</td>
<td>10.4</td>
</tr>
<tr>
<td>Inflation rate (annual change, %):</td>
<td>3.4</td>
</tr>
<tr>
<td>Government deficit (% of GDP):</td>
<td>2.1</td>
</tr>
<tr>
<td>Government debt (% of GDP):</td>
<td>17.0</td>
</tr>
<tr>
<td>Current account balance (% of GDP):</td>
<td>0.9</td>
</tr>
<tr>
<td>Long-term credit ratings:</td>
<td></td>
</tr>
<tr>
<td>Moody’s:</td>
<td>Baa2 stable</td>
</tr>
<tr>
<td>S&amp;P:</td>
<td>BBB stable</td>
</tr>
<tr>
<td>Fitch:</td>
<td>BBB stable</td>
</tr>
</tbody>
</table>

Source: Bulgarian National Bank, Eurostat, sovereign rating companies’ websites

- The Bulgarian economy had a constant growth of above 6% in the period 2000-2008
- The economy stabilized in 2011 with GDP growth of 1.7% for 2011, which is forecasted to recover to 2.8% in 2012
- The budget deficit in Bulgaria is one of the lowest in Europe for 2011 - 2.1%
- There are no currency fluctuations due to a currency board, introduced in 1997 – the Bulgarian Lev is pegged at 1.95583 to the Euro
- Bulgaria has the second lowest government debt to GDP ratio in the EU27 in 2011

Bulgaria is the only European country with an increased credit rating by Moody’s since the beginning of 2010.
Bulgaria was a top-ranking country in the manufacture of chemicals and chemical products for the Eastern Block...

1901 – One of the first foreign investments in the country – a shoe polish factory in Ruse – now Orgachim.

1954 – The soda ash factory in Devnya was built, now the biggest facility of Solvay Group in Europe.

1963 – The petrochemical complex was opened in Burgas – now Lukoil – Neftochim - Burgas.

1974 – The pulp and rayon combine Svilosa was opened in Svishtov, built with the latest state-of-the-art technologies.
...and a global leader in the manufacture of nitrogen and phosphorous fertilizers and soda ash

1980 – the chemical industry generated 17.1% of total industrial output and 20.8% of country's exports.

In the early 1990ies the country exported over 180 chemical products to more than 80 countries and was among the market leaders for soda ash and nitrogen and phosphorus fertilizers, among others.

1966-1970 – “Five Years of Chemistry and Organic Synthesis” : oil refinery capacities more than doubled and production increased over four times.
After 1989, the Bulgarian economy welcomed many foreign investors...

1997 – Solvay, Belgium bought 60% of the soda factory in Devnya. Today, this is Europe’s biggest soda ash factory in Europe.


1999 – Lukoil acquired 58% in Neftochim – Burgas which remains the biggest oil refinery on the Balkans.

1999 – The US Acid & Fertilizers bought the majority share in Agropolychim. Today, the company exports phosphorus and nitrogen fertilizers to five continents.
... resulting in modernized technical and production facilities


2005 – The Turkish Şişecam Group built a new glass factory near Targovishte. By 2010, Şişecam increased its factories to four, manufacturing products that are unique to the region.
INDUSTRY OVERVIEW
In 2010, exports of chemical products registered significant growth...

In 2009, exports were affected by the crisis, but as early as in 2010 recovered to above pre-crisis levels.

According to the Ministry of Economy, Energy and Tourism data, the following sectors register high dynamics in 2010 compared to 2009.

- Manufacture of Chemicals and Chemical Products – growth at 32%, making up 5.6% of total exports
- Manufacture of Other Non-Metallic Mineral Products – growth at 28%, accounting for 2.8% of total exports
- Manufacture of Rubber and Plastic Products – growth at 31%, making up 2.6% of total exports

Source: NSI, MEET, Eurostat
...signaling Bulgaria’s recovery from the crisis and the flexibility of its chemical production.

Bulgaria’s favorable geographic location and competitive production are essential for the exports of chemical and related industries products to all leading global markets.

Source: Eurostat
Major multinational companies as well as local competitors are present in Bulgaria

### Major companies in selected subsectors, 2009

<table>
<thead>
<tr>
<th>Company Name</th>
<th>Turnover Mln Euro</th>
<th>Employees</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Chemicals and chemical products</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solvay Sodi</td>
<td>117.5</td>
<td>551</td>
<td>Varna</td>
</tr>
<tr>
<td>Agropolichim</td>
<td>112.3</td>
<td>727</td>
<td>Varna</td>
</tr>
<tr>
<td>Orgachim (Policolor)</td>
<td>53.6</td>
<td>680</td>
<td>Ruse</td>
</tr>
<tr>
<td>Neochim</td>
<td>50.3</td>
<td>1420</td>
<td>Haskovo</td>
</tr>
<tr>
<td>Ficosota Syntez</td>
<td>42.8</td>
<td>407</td>
<td>Shumen</td>
</tr>
<tr>
<td>Panchim</td>
<td>14.1</td>
<td>108</td>
<td>Stara Zagora</td>
</tr>
<tr>
<td>Air Liquide Bulgaria</td>
<td>13.9</td>
<td>75</td>
<td>Sofia</td>
</tr>
<tr>
<td><strong>Rubber and plastic products</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gotmar</td>
<td>48.6</td>
<td>1004</td>
<td>Plovdiv</td>
</tr>
<tr>
<td>Vidahim</td>
<td>33.0</td>
<td>638</td>
<td>Vidin</td>
</tr>
<tr>
<td>Plastchim T</td>
<td>19.8</td>
<td>701</td>
<td>Dobrich</td>
</tr>
<tr>
<td>Hamberger Bulgaria</td>
<td>18.7</td>
<td>200</td>
<td>Gabrovo</td>
</tr>
<tr>
<td>Megaport</td>
<td>18.2</td>
<td>448</td>
<td>V. Tarnovo</td>
</tr>
<tr>
<td>Reynolds Consumer Products Bulgaria</td>
<td>17.1</td>
<td>33</td>
<td>Stara Zagora</td>
</tr>
<tr>
<td>Fibran Bulgaria</td>
<td>16.4</td>
<td>62</td>
<td>Sofia</td>
</tr>
<tr>
<td><strong>Non-metallic mineral products</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trakya Glass Bulgaria (Sisecam)</td>
<td>109.0</td>
<td>912</td>
<td>Targovishte</td>
</tr>
<tr>
<td>Drujba Glassworks</td>
<td>86.9</td>
<td>753</td>
<td>Plovdiv</td>
</tr>
<tr>
<td>Devnya Cement (Italcimenti)</td>
<td>74.7</td>
<td>303</td>
<td>Varna</td>
</tr>
<tr>
<td>Zlatna Panega Cement (Titan)</td>
<td>56.3</td>
<td>330</td>
<td>Lovech</td>
</tr>
<tr>
<td>Ideal Standard - Vidima</td>
<td>35.3</td>
<td>1461</td>
<td>Gabrovo</td>
</tr>
<tr>
<td>Ytong Bulgaria</td>
<td>32.7</td>
<td>223</td>
<td>Sofia</td>
</tr>
<tr>
<td>Vulkan Cement (Italcimenti)</td>
<td>26.8</td>
<td>166</td>
<td>Haskovo</td>
</tr>
</tbody>
</table>

Source: NSI, MEET, Eurostat
All major subsectors in the chemical industry are uniformly developed in Bulgaria

- Industry as a whole registers turnover at €2.81 b and employment at 85 000
- Non-mineral products account for the highest share, with turnover at €1.13 b
- Total turnover of Manufacture of Paper and Paper Products stands at €0.32 b and employment in the subsector stands at 10 200
- Turnover in Manufacture of Rubber and Plastic Products stands at €0.79 b

### Distribution of turnover (mln.€)

<table>
<thead>
<tr>
<th>Category</th>
<th>Turnover of Top 10 Companies</th>
<th>Turnover of the Other Companies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemicals and chemical products</td>
<td>445</td>
<td>471</td>
</tr>
<tr>
<td>Non-metallic mineral products</td>
<td>480</td>
<td>649</td>
</tr>
<tr>
<td>Paper and paper products</td>
<td>182</td>
<td>136</td>
</tr>
<tr>
<td>Plastic and rubber products</td>
<td>217</td>
<td>536</td>
</tr>
</tbody>
</table>

Source: Amadeus
Concentration of chemical
Concentration of Chemical products, rubber and plastic products, paper and Non-metallic mineral products producers in Bulgaria by location:
Bulgaria offers quality fields of many raw materials...

- Mirovo Salt Body near Provadia and the limestone quarry supply the well-developed soda ash production which is both a national and a regional leader.

**Renewable water resources (habitant)**

<table>
<thead>
<tr>
<th>Country</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>SI</td>
<td>15 791</td>
</tr>
<tr>
<td>LV</td>
<td>14 917</td>
</tr>
<tr>
<td>SK</td>
<td>14 842</td>
</tr>
<tr>
<td>BG</td>
<td>14 097</td>
</tr>
<tr>
<td>HU</td>
<td>11 607</td>
</tr>
<tr>
<td>RO</td>
<td>10 500</td>
</tr>
<tr>
<td>EE</td>
<td>9 211</td>
</tr>
<tr>
<td>LT</td>
<td>7 314</td>
</tr>
<tr>
<td>GR</td>
<td>6 394</td>
</tr>
<tr>
<td>TR</td>
<td>3 276</td>
</tr>
<tr>
<td>DE</td>
<td>2 293</td>
</tr>
<tr>
<td>PL</td>
<td>1 655</td>
</tr>
<tr>
<td>CZ</td>
<td>1 526</td>
</tr>
</tbody>
</table>

Bulgaria is rich in water resources. As rivers are spread uniformly across the country and the coastline along the Black Sea is long and easily accessible, the country boasts high levels of renewable water resources.

- Quality clay is among the major mineral resources of the country, for which testify the Bulgarian traditions in brick-making.
- The country features a couple of mega fields like those near town of Lukovit, the village of Propast and the town of Kardzhali.

Source: Eurostat
There are well established chains and networks between companies for supply of materials and services.

The infrastructure is also well developed - gas transmission networks connect suppliers, an ethylene pipeline is constructed.

- Provadia: Salt
- Burgas: Oil, gas
- Sofia: Industrial gases
- Kaolinovo: Feldspar, Quartz sand, Dolomite, Limestone
- Devnya: Soda ash
- Glass: Şişecam, Targovishte
- Pirdop: Sulfuric acid
- Aksakovo, Asenovgrad: Big bags
- Fertilizers: Agropolychim
- Burgas: natural gas
- Phosphates: Morocco, Tunisia, Egypt, Syria
Bulgarian chemical industry is favored by the affordable energy prices in the country...

Information refers to natural gas prices (consumption at 0.25 GWh/year) and electricity prices (consumption at 1 GWh/year) for industrial purposes, at 06.2011, €/kWh.

Electricity and gas prices in Bulgaria are among Europe’s lowest, contributing significantly to lower production costs.

- Bulgaria has the lowest corporate tax in the EU
- Zero tax rate for companies in regions of high unemployment

### Corporate income tax rates across Europe

- Bulgaria: 10%
- Latvia: 15%
- Romania: 16%
- Czech Rep: 19%
- Poland: 19%
- Slovakia: 19%
- Turkey: 20%
- Croatia: 20%
- Slovenia: 20%
- Estonia: 21%
- UK: 28%
- France: 33%

Source: Energy.eu CEIC
...as well as from competitive prices and availability of real estates and industrial terrains.

In 2011, available industrial properties stand at 117 km²

Sofia offers one of the lowest industrial property rental prices compared to other European cities

Rental prices in Plovdiv and Varna are twice lower compared to Sofia

InvestBulgaria Agency offers incentives for the purchase of industrial properties to qualified investors.

Prices of industrial property vary between 15 and 180 €/m²

Plovdiv and other Bulgarian cities feature well-developed industrial zones with prices varying between 15 and 30 €/m²
5 Pan-European Transport Corridors cross the territory of the country ....
Bulgaria features continuously developing quality infrastructure

- The country is in the focus of road infrastructure projects of the European Commission
- Port Varna and Port Burgas at the Black Sea offer excellent opportunities for water transport to Russia and Ukraine destinations
- The ports in Vidin, Svishtov and Ruse on the Danube provide river transport to Western Europe via Pan-European Transport Corridor VII (Rhine-Main-Danube)
Sofia – Bozhurishte Industrial Park

- Convenient for light and semi-heavy industries, warehouses, logistics and distribution centers, showrooms, among others
- Located on Trakia Highway, 5 km from Lyulin Highway, 30 km from Hemus Highway, 23 km from Sofia Airport, 150 km from Lom River Port
- Gas supply; local road network and railway line; direct transport connections to the capital

Location:
Bozhurishte - Sofia
Total space: 1 914 000m²

About 60 industrial zones in Bulgaria offer free spaces and well-developed infrastructure.

Plovdiv

- Direct connections to Pan-European Transport Corridors IV, VIII, X
- Chosen by international names such as Liebherr - Holding GmbH, Ferrero, Schneider Electric, Mercedes Benz, Bosch Group
- Internal road network, gas supply; customs office
- Near Trakia Highway; 18 km from Plovdiv Airport
- Construction of industrial facilities with lease financing from banks and with the required initial permits

Location: Plovdiv
Free space/Total space: 800 000/3 000 000m²
Selected Industrial Zones

Ruse Industrial Park

- Ruse is a big international transport center located on the crossroad of Pan-European Transport Corridors VII and IX and featuring the only bridge over the Danube connecting Bulgaria and Romania
- Investors: Montupet, Keros Bulgaria, MBM Metalwork
- Internal road network
- Gas supply
- 130km from Hemus Highway, 70 km from Bucharest Airport, 190 km from Varna Airport, 200 km from Port Varna

A catalogue of Industrial Zones in Bulgaria is available at: http://www.investbg.government.bg/

Burgas

- Convenient for: environment friendly productions such as IT, textile, engineering, electrical installations
- Developed infrastructure and complete logistics solutions
- 15km from Trakia Highway, 12 km from Burgas Airport, next to Port Burgas which handles 2/3 of national imports and exports
- Internal road network, own railway line
- Fast and facilitated customs services
Bulgaria is a party to the Kyoto Protocol and participates in the EU Emissions Trading Scheme...

... enabling many producers to trade CO2 emissions.

The producer of mineral fertilizers and other chemical products Neochim AD – Dimitrovgrad is a registered operator in the EU Emissions Trading Scheme and has realized sales of excess EUA allowances at a total of €2.2 m. In October 2010, the company launched a project for reduction of nitric acid production emissions under the Kyoto SI mechanism with a value of €1 m. The project is expected to generate about 112 thousand emissions reduction units (ERU) by the end of 2012.

Source: Eurostat
Large investments in waste treatment and management have resulted in lower emission levels

Investment in equipment and pollution control plants in the Chemical and Related Industries, 2008 (€ m)

- Bulgarian legislation is aligned with European legislation on all environmental norms
- The EU REACH Regulation is binding on all companies in the sector
- Bulgarian companies participate in initiatives such as Responsible Care

Responsible care:

- All of the program’s initiatives in Bulgaria are supported by the Bulgarian Chamber of the Chemical Industry
- At global level, Responsible Care is coordinated by the International Council of Chemical Associations (ICCA)
- About 30 Bulgarian companies are members of the initiative and report annually on their performance on basis indicators of health and safety at work, major environment pollutants, transport accidents, energy and water consumption

Source: Eurostat
Compared to the other countries in the region, Bulgaria offers some of the lowest labor costs in all of the four subsectors.

<table>
<thead>
<tr>
<th>Country</th>
<th>Manufacture of paper and paper products</th>
<th>Manufacture of chemicals and chemical products</th>
<th>Manufacture of rubber and plastic products</th>
<th>Manufacture of other non-metallic mineral products</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bulgaria</td>
<td>2.11</td>
<td>3.30</td>
<td>1.66</td>
<td>2.69</td>
</tr>
<tr>
<td>Romania</td>
<td>3.20</td>
<td>4.84</td>
<td>3.22</td>
<td>4.01</td>
</tr>
<tr>
<td>Latvia</td>
<td>5.47</td>
<td>5.66</td>
<td>4.95</td>
<td>6.45</td>
</tr>
<tr>
<td>Lithuania</td>
<td>5.71</td>
<td>9.46</td>
<td>5.75</td>
<td>6.55</td>
</tr>
<tr>
<td>Poland</td>
<td>6.85</td>
<td>9.15</td>
<td>6.63</td>
<td>7.60</td>
</tr>
<tr>
<td>Hungary</td>
<td>7.81</td>
<td>11.20</td>
<td>6.91</td>
<td>8.11</td>
</tr>
<tr>
<td>Estonia</td>
<td>7.89</td>
<td>8.63</td>
<td>7.58</td>
<td>9.01</td>
</tr>
<tr>
<td>Slovak Republic</td>
<td>8.89</td>
<td>9.46</td>
<td>7.10</td>
<td>8.40</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>8.93</td>
<td>10.12</td>
<td>8.43</td>
<td>9.61</td>
</tr>
<tr>
<td>Slovenia</td>
<td>12.44</td>
<td>15.50</td>
<td>12.67</td>
<td>12.41</td>
</tr>
<tr>
<td>Greece</td>
<td>14.55</td>
<td>16.70</td>
<td>12.67</td>
<td>19.63</td>
</tr>
<tr>
<td>EU (27)</td>
<td>24.15</td>
<td>31.55</td>
<td>20.08</td>
<td>19.99</td>
</tr>
</tbody>
</table>

Source: Nace rev. Eurostat, NRA
Qualified experts with long-standing experience contribute to relatively high labor productivity

- Monthly average wages in the chemistry sector vary between €300 and €650 depending on the position

<table>
<thead>
<tr>
<th>Position</th>
<th>Average Earnings (Euro/month)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Senior officials</td>
<td>633</td>
</tr>
<tr>
<td>Analytical experts</td>
<td>510</td>
</tr>
<tr>
<td>Technicians and other applied experts</td>
<td>426</td>
</tr>
<tr>
<td>Administrative staff</td>
<td>332</td>
</tr>
</tbody>
</table>

- Bulgaria has one of Europe’s highest relative labor productivity in the chemical sector

<table>
<thead>
<tr>
<th>Country</th>
<th>Apparent Labour Productivity (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Latvia</td>
<td>173</td>
</tr>
<tr>
<td>Bulgaria</td>
<td>148</td>
</tr>
<tr>
<td>Estonia</td>
<td>142</td>
</tr>
<tr>
<td>Poland</td>
<td>133</td>
</tr>
<tr>
<td>Slovakia</td>
<td>130</td>
</tr>
<tr>
<td>Lithuania</td>
<td>124</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>116</td>
</tr>
<tr>
<td>Slovenia</td>
<td>115</td>
</tr>
<tr>
<td>Hungary</td>
<td>87</td>
</tr>
</tbody>
</table>

In Bulgaria, €100 of labor cost investments generate €148 of output.

Source: Eurostat
Technical secondary schools and universities are located throughout the country...

School and university students by course and region

➢ There are five technical universities located in the cities of Sofia, Plovdiv, Burgas, Ruse and Varna

➢ 11% of the students major in courses relevant to the needs of the chemical and related industries

➢ 34% of the students in vocational secondary schools study related courses

➢ 43% of the students in the vocational secondary schools in the sector are concentrated in the cities of Sofia, Plovdiv, Burgas, Ruse and Varna

➢ Many universities have contacts with companies in the sector which offer scholarships programs, trainings and bursaries for young specialists
...and train students in a wide range of related courses.

Number of students in accredited tertiary education schools, 2009/2010 academic year, second semester.

<table>
<thead>
<tr>
<th>Course</th>
<th>Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Machine building and automation</td>
<td>5,502</td>
</tr>
<tr>
<td>Transport and logistics</td>
<td>4,039</td>
</tr>
<tr>
<td>Industrial management</td>
<td>3,135</td>
</tr>
<tr>
<td>Electronics and electrical engineering</td>
<td>3,125</td>
</tr>
<tr>
<td>Pharmacy and cosmetics</td>
<td>3,102</td>
</tr>
<tr>
<td>Organic and inorganic chemistry</td>
<td>2,990</td>
</tr>
<tr>
<td>Electricity and water supply</td>
<td>2,776</td>
</tr>
<tr>
<td>Ecology, recycling</td>
<td>2,531</td>
</tr>
<tr>
<td>Engineering</td>
<td>2,227</td>
</tr>
<tr>
<td>Biotechnologies</td>
<td>1,546</td>
</tr>
<tr>
<td>Other</td>
<td>2,924</td>
</tr>
</tbody>
</table>

About 60 000 students in related courses in vocational secondary schools

<table>
<thead>
<tr>
<th>Course</th>
<th>Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electronics and electrical engineering</td>
<td>31,200</td>
</tr>
<tr>
<td>Manufacture of chemicals</td>
<td>2,460</td>
</tr>
<tr>
<td>Machine building and transport equipment</td>
<td>15,100</td>
</tr>
<tr>
<td>Other related courses</td>
<td>10,000</td>
</tr>
</tbody>
</table>

Source: A.T.Kearney. Ministry of education
Sofia University St. Kliment Ohridski
- 25 000 students
- Courses: Computer Chemistry, Eco Chemistry, Chemistry in Engineering and Contemporary Materials
- Many of the business and technical programs are taught in English, French or German
- Double-diploma programs with Paris-Sorbonne, Bordeaux IV, City University Seattle

University of Chemical Technology and Metallurgy
- 4 000 students
- Courses accredited by the European Federation of National Engineering Associations /FEANI/
- Courses: Chemical Engineering taught in German, Industrial Chemistry taught in French, Material Sciences taught in English
- Cooperation with universities such as Queen Mary University of London, Hamburg University of Technology, National Polytechnic Institute of Toulouse, among others

Burgas Prof. Assen Zlatarov University
- 4 800 students
- Courses: Organic Chemical Technologies, Inorganic Chemical Technologies, Chemical Engineering, etc.
- Lukoil Neftochim Burgas grants bursaries to top-ranking students
- Active cooperation with institutes and universities of England, France, Germany, Russia, among others

University of Mining and Geology “St. Ivan Rilski”
- 5 000 students
- Foreign students from almost 40 countries
- Departments of geology, engineering mechanics, automation, chemistry, environment protection, etc.
- Complex training and qualification center and local Cisco Networking Academy
Technical University of Sofia
- 14,000 students
- Faculties of automatics, electronic engineering and electrical engineering, mechanical engineering, engineering, etc.
- Sole representative of BEST for Bulgaria. BEST unites students from 67 technical universities of 27 European countries and organizes engineering competitions and trainings

Technical University of Varna
- 8,000 students (more than 500 foreign students)
- Course of Chemical Machine Engineering
- International Specialized Labor Exchange with employers from Germany, Norway, Denmark, among others
- A Bulgarian TU Varna student won an international competition for an ergonomic device project for Electrolux

Plovdiv University “Paisii Hilendarski”
- 13,000 students
- Faculties of Chemistry, Biology, Physics, Mathematics, Informatics, among others
- Independent R&D unit in the field of: Microbiology and Biotechnology, Researches on Utilization of Natural Resources, Environment Protection, Synthesis of New Organic and Inorganic Substances, etc.

Ruse University “Angel Kanchev”
- 8,000 students
- Special partnership program with Cornell University
- Courses: Chemical Technology, Biotechnology, Ecology and Environment Protection
- One of the selected by the European Commission TEMPUS program 18 universities from 11 Central European countries that have achieved the best results in the transformation of higher education
Vocational Secondary School of Chemical Technology “Acad. N. D. Zelinskii”, Burgas

- 600 students
- Courses: Chemical Technology, Technological and Microbiological Control, Ecology and Environment Protection, Production Automation, etc.
- 12 laboratories, equipment with 10 semi-industrial installations, 5 workshops
- Since 2001, the school has a contract for cooperation with Lukoil Neftochim Burgas
- School graduates have the possibility to work in the company

Vocational Secondary School of Chemical and Microbiological Technology “Prof. Pencho Raikov”, Sofia

- 180 students
- Courses: Technology of pharmaceutical, perfumery and cosmetics production
  Technological and microbiological control of chemical production with enhanced English learning
- In 2011, students from the school took part in and exchange of experience event in Bratislava under Leonardo da Vinci Program
- The school has established partnerships for educational practice with Weiss Profil, Lackprom and the University of Chemical Technology and Metallurgy
Vocational Secondary School of Chemical and Food Technology “Prof. Dr. Assen Zlatarov”, Dimitrovgrad

- 320 students
- The first of its kind secondary school of chemical technology in Bulgaria
- Courses: Automation of continuous production processes, Technological and microbiological control of food production, Technology of pharmaceutical and perfumery and cosmetics products, among others
- Together with the IUPAC Committee on Chemistry Education, the school participates in the global project “Water: A Chemical Solution” for development of a global map of the quality of water resources across the world
- Educational practices are organized in time-tested companies such as Neochim, Vulkan Cement, among others

Vocational Secondary School of Electrical Engineering and Automation, Sofia

- 700 students
- Courses: Automated Systems, Automation of Continuous Production Processes, Electrical Machines and Apparatuses, etc.
- Every year the school participates in the Manager for a Day initiative organized by Junior Achievement Bulgaria
- Production practice is a compulsory element of the education process
SUCCESS STORIES
Solvay Sodi is Solvay’s biggest European factory for manufacture of soda ash with a capacity of 1.5 million tons per year.

In 2000, Solvay Sodi privatized the suppliers of material for the soda production process – the salt and limestone mining enterprises and Deven Thermoelectric Power Plant.

85% of company’s output is exported to Eastern and Western Europe, Russia, the Middle East, South America, Asia and Africa.

1997-2011 investments at €306 m (€150 m in the past three years).

**Established:** 1954
**Location:** Devnya
**Employees:** 700
**Products:** soda ash and sodium bicarbonate

The materials and resources located in proximity to operational capacities and the convenient transport corridors (Varna West Port) were the main factors which motivated Solvay to launch business in Bulgaria.

The company accounts for about 1% of Bulgaria’s exports.
Soda ash is the main raw material in glass production, metallurgy, paper, chemical and leather industries and in detergents production.
The company has won a number of corporate social responsibility awards in Bulgaria.

- It cooperates with universities, offering visits and internship programs for students majoring in different subjects.

Solvay Group is the first main partner and technology partner of Solar Impulse – the zero-fuel airplane. The prototype was first exhibited in Bulgaria on the Day of Chemistry at Solvay Sodi, Devnya, on 1.10.2011.
Success Stories

Agropolychim

Established: 1974
Location: Devnya
Employees: 950
Products: nitrogen and phosphorus fertilizers

- Manufacture of complex fertilizers (DAP, MAP) has been launched

Environmental investment projects at more than €50 m in value. Major ones include:
- Ammonium nitrate installation with design capacity of 1 250 t/24h
- Water treatment plant for the waste water from phosphorus production – implemented in cooperation with the Danish Environmental Protection Agency DEPA
- Liquefied ammonia terminal with a capacity of 10 000 t
- New phosphor-gypsum waste depot with a total capacity of 7.3 m tons

- Agropolychim plans to construct in cooperation with Port Varna West a unique logistics hub for liquid cargo
- Share of exports in production varies between 55% and 70%
- Markets: Europe, Latin America, Middle East, Asia
- 2010 exports total 390 thousand tons

Studying the market in order to make our investment, we found out that this was the best place for doing business in the region. Start-up requirements were very clear and the available assets provided a good basis.
Krasimir Berbenkov, Executive Director, Agropolychim
In 2008, Neochim developed in cooperation with the Russian research institute OAO GIAP (Moscow) pioneer technologies for reconstruction of the ammonium nitrate shop.

- 2008 ammonium nitrate production capacity of AC-72 increased by 50%
- €50 m in investment over the past 10 years, further €15 planned
- In 2008, 37% of the exports of ammonium nitrate went to the markets of North and South America and 63% to Europe

Neochim grants bursaries and paid internships to school and university students of related subjects (more than 120 internship trainees over the past 5 years).

The company participates and makes presentations at prestigious international forums and exhibitions such as Nitrogen and Syngas 2009 in Rome.

In 2010, Neochim AD received the European Bank for Reconstruction and Development (EBRD)’s energy efficiency and renewable energy award. The winner project is for a turbine-generator station for capturing the waste steam generated by the production of nitric acid. The project was implemented in cooperation with EnCon Services and with an €150 000 ERBD grant.
One of the first foreign investments in Bulgaria – in 1901 two Jews found a shoe polish and lacquers factory

Majority owner is the English RC2 Fund and the parent company is the Romanian Policolor

More than 60% of the paints and lacquers are intended for the Romanian market and about 80% of the resins are exported to countries such as Romania, Serbia, Belgium, Austria, etc.

Since 2009 the entire manufacture of paints and lacquers has been moved from the Romanian factory to Bulgaria

The EuroBioRef project where Orgachim AD is one of the 28 partners from 14 countries was launched in 2010. The project addresses the complete process of biomass transformation from the agricultural product to the commercial end products.

Bulgaria has talented young people open to learning and adopting others’ experience. I feel at home here.

The investment conditions here are wonderful. The country has large capacity to produce law materials locally.

Achille Bardelli
Member of the Board of Directors

The company invests about €2 m annually in production automation, capacity enhancement and improvement of working conditions

As a Responsible Care member, in 2011 Orgachim organized an open-doors day
Established: 1919  
Location: Sofia  
Employees: 130  
Products: paints and lacquers, priming, glues, insulations

- Company’s products have passed successfully the quality and safety tests. They were used in:
  - Mitsubishi in the construction of Burgas Port
  - For bee hives in England
  - Children’s toys for IKEA, Simba Toys
  - A German construction company for the construction of three waste landfill sites in Bulgaria
  - Petroleum terminals – Ilentsi, Lukoil AD, Pertol AD
- Has an accredited laboratory and invests in external laboratories for specialized tests such as food contact and salt spray, among others
- The only Bulgarian paint and lacquer company with a xenotest
- Medal winner at Bulgarian and international fairs and exhibitions (Rome 2005-6, Plovdiv)

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"The company employs highly qualified people – the staff is well trained."

Haralambi Haralambiev, Executive Director, Lackprom AD

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- Specialized products are exported directly but also through company’s corporate customers from machine engineering, wood and furniture, cars, energy sectors, among others
The only producer of sulphate bleached hardwood kraft pulp on the Balkans
The factory underwent two major reconstructions in 1992 and 2007; the 2007 investment amounts to €60 m
More than 80% of the wood used in the production comes from self-healing wood types
The first Bulgarian company with a contract for sale of carbon emissions
Every year Svilosa grants qualification improvement bursaries to its employees
Top ranked by one of the most reputed economic publications as the fastest growing Bulgarian company in 2010 with almost tenfold growth in revenues compared to 2009

As the standard of living improves, paper consumption will increase in Bulgaria as well as globally.
Mihail Kolchev, Executive Director, Svilosa
Established: 1999  
Location: Sofia  
Employees: 85  
Products: industrial gases

- The company supplies its products to customers in many Bulgarian industries, including metallurgy, food, pharmacy and medicine, environment protection, among others
- The company offers a wide range of logistical solutions and technical expertise
- Exports to Romania, Greece, Serbia and other countries of the region
- Air Liquide produces gases in Bulgaria whereas most of the other companies rely on imports

In 2010 and 2011, the company invested €25 m in the air separation installations of its two biggest production facilities in Pirdop and Pernik, as well as in Gabrovo.

We believe that our company will continue to invest in this country.
Francis Bucquet, CEO, Air Liquide Bulgaria

The in-house communication and training system facilitates the global exchange of technologies and skills within the group.

It is a pity that Bulgaria is not a wide-known investor destination because the country has enormous development and growth potential. It has the necessary production tools and installations, motivated business people, competitive costs and a growing market. Bulgaria is a financially well managed country.”
Francis Bucquet, CEO, Air Liquide Bulgaria
Established: 1967
Location: Tervel (Dobrich district)
Aksakovo (Varna district)
Employees: 800
Products: flexible packages, film

Company’s products include polypropylene yarn and film, BOPP films, polypropylene sewn bags, bottom bags, flexible packages (Flexible Intermediate Bulk Container)

Close to € 30 m in investment over the past 9 years
More than 80% of production is sold at the markets of Central Europe.
Expansion to Western Europe and North Africa is pending

Bulgaria benefits from the advantage of being the Eastern gate to Europe. Its location also contributes to shorter delivery times, which is often very important.
Aydan Faik, Executive Director, Plastchim - T

Since 1998, Plastchim – T is the only Bulgarian producer holding a Portabulk license by Hydro Packaging (Cronus Packaging System). Since 2006 it also holds a Levoloop license

Future investment plans:
Increase flexible packages (big bags) production capacity by 25%
Cast polypropylene production, capacity 8500 t/year
New biaxial polypropylene film line with a capacity of 30 thousand tons/year (the capacity of the two existing lines is 25 thousand tons/year). This will be a unique production for Bulgaria as well as for many countries of the region – a top-rankin technology
**Established:** 1929  
**Location:** Novi Iskar  
**Employees:** 125  
**Products:** technical rubber products

- The first Bulgarian producer of rubber products
- Wide product range, works with US know-how and license since 1981
- The company uses proprietary product engineering developments and tooling equipment
- 60-70% of the production is exported to Europe, US and the Balkan countries
- Cooperates with international partners such as Caema, Alfragomma, Hormann, Kontitech, among others
- Zebra is an active member of the international initiative Responsible Care

Zebra’s rubber products are used in the construction of Sofia Metropolitan.

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Zebra AD reports 2011 growth in sales at 72% compared to the previous year.

The cogeneration module worth €1 m is the latest investment towards energy efficiency and environmentally friendly production. The subsector is on an upward trend nationally, reporting growth in exports at 12% in the first half of 2011.
Bunay SA works for partners such as Liebherr, IKEA, Reckitt Benckiser, among others.
The company exports its products to companies in the Czech Republic, Hungary, Germany, Italy, etc.
Further to its core production, the company also has departments of ultrasonic welding, assembly, painting and screen printing.
There is a special repair mechanical department for repair and production of new moulds.
The company aspires to integration with the sectors of mechanical engineering, motor-car construction, electrical manufacturing industry, etc.

Bulgarian plastic production is well-placed. Due to the technological specifics, the cost of rubber processing in Bulgaria is considerably lower compared to Western Europe and this makes the country an inviting place to move such production.

Bonka Natova, Head of Marketing and Sales, Bunay SA
Assenova Krepost is the biggest packages factory in Southeastern Europe.

- It offers film and print, woven bags, flexible containers for the food, chemical and other industries.
- 34-45% of production is intended for export to Ukraine, Georgia, Turkey and Europe.
- Raw materials (polyethylene and polypropylene) are imported from Middle East countries.
- New stretch film and cast polypropylene film capacities have been commissioned in the past few years.
- A major supplier of fertilizer big bags to companies such as Neochim.
- The company holds a patent for a special five-ply sausage sleeve which was awarded a golden medal at the Plovdiv International Fair. It is a winner of awards at international fairs and forums such as Agrotica 2000 – an international fair for agricultural machinery, equipment and suppliers.
Şişecam - Trakya Glass is the biggest green-field investments in Bulgaria, at €304 m in present value.

The glass complex comprises glassware, flat glass, household glassware, mirrors and car glass factories. The investment project phases were completed in the period 2005-2010.

The flat glass and glassware factories use local raw material (sand, soda ash, dolomite and limestone).

The glassware factory hosts the biggest glass furnace on the Balkans. Major customers include IKEA, Coca Cola, Tesco, Walmart, among others.

The household glassware factory manufactures processed glass for the ovens and refrigerators of Indesit, Bosch, Electrolux, etc.
The flat glass factory is the first of its kind on the Balkans. Flat glass is a high-tech product used mainly in the construction, car-making and furniture industries, in household appliances and agriculture, in energy-generation solar collectors and solar cells.

Şişecam’s latest project in Bulgaria is its 2011 investment in an auto glass factory whose customers include Audi, BMW, Dacia, Ford Europe, and Renault. Capacities generate €128 m in annual revenues (€113 m in international sale revenues).

Future plans of the company:
- Investment in another production complex of four different productions: flat glass, glassware, energy-saving glass and laminated glass
- Increased auto glass output capacity
- Total planned investments – about €200 m

Şişecam Bulgaria delivered 6 m glasses for the 2006 Football World Championship in Germany, or half of total order. In 2010, the company delivered the whole order of 13 m glasses for the championship in South Africa.
Established: 2001
Location: Kostinbrod
Employees: 82
Products: construction and technical mortars

- 2009 – first plant for dry mixtures and mortars with a capacity of 100 thousand tons opened in Kostinbrod
- 2011 – second plant opened near Varna, as well as end-user consulting centers in Plovdiv, Burgas, Varna and Sofia
- To date, investment in Bulgaria totals €12 mln.
- Winner of the 2009 Best Employer Award in the SME category, ranking 4th in the Hewitt Associates’ study
- The company launched in Bulgaria its innovative product: dust-free light tile adhesives
- 100%-recyclable, waste-free, no-water technology is implemented in the factories

Weber is one of the first members of the Green Circle of Bulgarian Companies established in June 2010.

- Currently, the company focuses on the local market
- Company’s perspectives lie mainly in developing the professional network in the field of thermal and hydro-insulation, rehabilitation and reconstruction of existing buildings
Established: 1993
Location: Sofia
Employees: 190
Products: plaster board, gypsum fiber board panels

The company has two factories in Bulgaria:
- M&A Project 1997 – Vidin, gypsum fiber board panels factory, exports to 25 countries globally
- Greenfield project 2007 – Mednikarovo, plaster board factory – export to Romania
- Expansion project – Mednikarovo - mortars factory – in the design phase

To date, investment totals €85 m

Cooperation with the German Bulgarian Institute in Pleven for dry construction training. More than 1000 erectors have been awarded certificates so far

Each year the company participates in and sponsors the Panorama of Vocational Education organized by the Ministry of Education. The winning team goes to Knauf’s international competition (Knauf JuniorTrophy)

Knauf’s investment projects in Bulgaria were implemented smoothly compared to other company’s projects in other countries. Therefore we believe that Bulgaria is a very good place to invest.

The three factors which contributed to a decision in favor of Bulgaria as a place to invest included: access to our core raw material, country’s geographic location and the current tax situation.

Ingrid Janker, CEO, Knauf Bulgaria
Bulgaria was chosen as a place to invest mainly because of its location on a cross road and near customers.

As transport costs account for 25% of the product’s end price, low transport costs and small distances are advantages of Bulgaria.

Company’s investment amounts to €26 m.

85% of production is for export.

Keros Bulgaria serves the Balkan, Russian and Middle East markets.

The Bulgarian factory is equipped with a newer generation technologies compared to the one in Spain.

The company plans to double its capacity, investing €12 m in the next 2 years.

Bulgaria has enormous potential and I believe that in the next 5-10 years more Spanish companies will be attracted by the business environment in the country.

Salvador Ferrer Ballester
Executive director Keros Bulgaria

The environment in Bulgaria is very welcome, in particular the higher authorities were of great help.

Salvador Ferrer Ballester
Executive Director, Keros, Bulgaria

In Bulgaria, it is easy to find well-trained people speaking foreign languages, but that is not the case in Spain.

Salvador Ferrer Ballester
Executive Director, Keros, Bulgaria
The factory in Lukovit is an investment of €30 m, implemented in just 10 months.

A pioneer for Bulgaria in the production of higher-quality large format clay blocks with vertical perforation.

The clay of the Lukovit field has proved to be among the top-quality materials in Wienerberger Group.

Qualified and motivated staff; 90% of employees are people from the region.

The factory operates entirely on natural gas to achieve environment friendly production.

2008 – the new Wienerberger factory in Bulgaria is the world’s facility of the group (among 260 other). It is a prototype of the latest generation of mega factories – fully robotized and automated. Innovative technologies implemented in this plant were used later in Group’s other expansions.

Wienerberger Bulgaria is among the first five top-ranking companies of the group in terms of low energy consumption, cost effectiveness, operating profit, health and safety at work.

Bulgaria offers traditions in the production and use of ceramic tiles as well as rich reserves of quality raw material. The market hides great potential.”

Atanas Buglov, Manager, Wienerberger EOOD
Offers on the market more than 30 different types of specialized products
Italcementi Group invested more than €200 m in Bulgaria
Company’s location is a key to its success. The enterprise continues to expand its land and sea exports – mainly to neighboring countries and the Black Sea markets
According to company’s director, these exports are favored by the historical relations of the countries in the region
The company continues to expand its operations in Bulgaria building a new modern nature-friendly cement installation

Devnya Cement AD recently started exporting to Russia as a major supplier for the 2014 Winter Olympics in Sochi.
IBA Services:

- Macroeconomic information
- Legal advice
- Information on operational costs
- Regional data on unemployment, availability of skilled labour force, level of education, infrastructure, foreign investors and industrial zones
- Recommendation of vacant land
- Identification of potential suppliers, subcontractors or joint venture partners
- Individual administrative services
- Contacts with the central and the local authorities
- Contacts with industry chambers, local universities and NGOs
Investing in your future
EUROPEAN UNION
European Regional Development Fund

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