



# Construction & Building Technologies



For EU Gateway | Business Avenues, the Construction & Building Technologies sector covers technologies and materials related to the engineering, the design, the construction, the demolition and demolition waste services, the fitting, the arrangement, the finishing of public and private buildings as well as its renovation or deconstruction/ demolition and infrastructure works (roads, airports, ports, etc.). Recent trends underline the concept of Circular Economy - low carbon materials, greater durability or reusability/ recycling and resource efficiency.

Relevant sub-sectors include:

- **Smart Grids** that include Automation and Robotisation components and technologies, Sensor Networks and Maintenance systems;
- **Smart and Green Buildings** including Performance Systems and Services, Smart Meters, Building Information Modelling and Sensor Technologies, Energy, Water and Materials efficiency components, Mechanical, Electrical and Plumbing systems, Construction Monitoring and Quality Control Systems, Prevention Technologies and Disaster Response Technologies as well as Sustainable Renovation and Deconstruction Technologies and Services;
- **Machinery Sector** including components, equipment and technologies relating to: Engines and Turbines; Pumps and compressors; Valves, Gears and Bearings and HVAC (Heating, Ventilation and Air Conditioning); Material lifting systems;
- **Building Materials and Building Installation** including Raw Materials (Stone, Wood, Tile,

Marble, etc.), Finished Materials (flooring, Windows, etc.), Low-Carbon Materials, Smart/Biomimetic Materials, and Shoring, Scaffolding, Underpinning, Joining technology, Facade Support Systems, and Reinforcement Technology.

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## ***EU Focus***

**The Construction & Building Technologies Sector plays a strategic role as it contributes delivering the buildings and infrastructure needed by the economy and society.** The construction industry is crucial for the EU economy, as it provides 18 million direct jobs and contributes to about 9% of the EU's GDP. It also creates new jobs, drives economic growth, and provides solutions for social, climate and energy challenges.

### **Smart grids and green buildings**

Green buildings are accelerating globally, since these are increasingly viewed as long-term business opportunities. At the same time, smart grids are a crucial element for green buildings, as they allow consumers to adapt - in time and volume - their energy usage to different energy prices throughout the day, thus contributing to energy savings.

- The EU aims to replace at least 80% of electricity meters with smart meters by 2020.
- In the period 2008-2012, investments in smart grid projects were consistently above € 200 million per year, reaching € 500 million in 2011.
- Project budgets have been growing steadily. The investment share of projects with budgets of over € 20 million grew from 27% in 2006 to 61% in 2012.
- The United Kingdom, Germany, France and Italy are the leading investors in smart grid projects. Denmark is the country most actively involved in R&D projects, supporting a large number of small-scale projects.

### **Construction machinery**

Construction machinery provides working tools needed in construction and related industries, boosting economic development and societal improvement; machines such as road making equipment, construction site hoists and earthmoving machines.

- The industry has a turnover of about € 26 billion from European production, which represents about 5% of total EU engineering output and equals 20% of the worldwide production of construction equipment.
- Manufactures are small- and medium-sized to a large extent, but also large European and multinational companies with production sites in Europe.
- Characteristics of the industry are the innovative capacity, the high level of product diversity and the large complexity in the manufacturing chain. The sub-sector is a key example of Europe's engineering championship and a crucial factor for constructing a sustainable and competitive economy.

### **Building materials**

The manufacture of building materials is an established sub-sector in the European Union. Some of the most important industries in the European Union are:

- Construction minerals: the industry mainly consists of small and medium-sized enterprises (SMEs) operating over 20 000 extraction sites that supply local and regional markets.

- Non-metallic minerals: companies range from global players (in the cement, flat glass, and bricks industries) to small and medium-sized companies (in the ceramics industry and parts of the lime industry).
- Steel: the steel industry has long held a strategic place in the EU economy, fostering innovation, growth, and employment. To face the downturn of steel demand after the economic crisis and ensure a promising future for the sector, the European Commission is working on boosting the industry.
- Metallic minerals: the EU metallic minerals industry produces a wide range of ores yielding metals or metallic substances. The EU is an important producer of chromium, copper, lead, silver, and zinc.
- Woodworking: in 2010-11, the woodworking industries had a turnover of € 122 billion and an added value of € 31.2 billion. The sector was employing 1,093 million people in 184 thousand companies, most of them SMEs.



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