MARKET OPPORTUNITY JAPAN

Construction and Building Technologies

CONSTRUCTION & BUILDING TECHNOLOGIES

OVERVIEW

- The Japanese construction sector is characterised by the predominance of large general constructors called Gene-cons. Gene-cons cover all functions and business from design to construction. The few Gene-cons and 690,000 small constructors shape Japan's construction industry.
- There are business opportunities for SMEs in construction-related technology. The market seeks new and innovative products/services for the construction industry. There is a growing demand for energy-saving technologies and high-tech solutions.
- The market revenue of the Japan's construction industry is worth approximately €406 billion. Investment in public construction is €170 billion and for private commercial construction, it is €244 billion.
- Private commercial investment is valued at €114 billion for residences, €83 billion for commercial buildings and €43 billion for public works.

World's 3rd largest construction market

6% Global market share

€560 billion value by 2019 (€104 billion more than at 2014).

Top Business Opportunities for EU Companies

Energy-saving technologies and high-tech solutions

1.	**Zero Energy Building (ZEB)** and **Zero Energy Houses (ZEH)** are highly favoured; subsidies are being granted by the Japanese government. There is continued high demand for energy-saving materials, high-tech heating, ventilation and air conditioning facilities and systems, and accumulators that provide high energy-efficiency.
2.	Companies dealing with **sensors and Internet of Things (IoT)** cloud systems can tap into the increasing demand for IoT technology in buildings and residences (Continuous Emissions Monitoring Systems, Facilities and Equipment Maintenance Systems, Building Energy Management and Maintenance Systems, Home Energy Management Systems, Automation and Monitoring Systems).
3.	Japanese material companies have high interest in producing /developing new **highly functional materials** at lower cost. European companies specialising in high-tech materials including carbon-fibre-reinforced plastic, cellulose nanofiber, or high-tech glass materials have key opportunities for partnership collaborations.
4.	Labour shortages have increased interest in **digital technologies** for construction, opening opportunities for companies producing technologies, particularly robotics for architecture, applications of Mixed Reality and inspection drones.

Source: PwC Analysis

MARKET CHARACTERISTICS

High interest for Smart Construction and building technologies. The 2011 Great East Japan Earthquake led to the shutdown of nuclear power stations; Japan has since been facing a problem with sustainable energy supply. As a result, Japan's construction industry has shifted towards sustainable construction and buildings.

Policy support by the government. The government aims to increase the proportion of Zero-Energy Houses to 50% of newly constructed houses in the domestic market by 2020, and to realise Zero-Energy Building in average newly constructed public and private buildings by 2030.

Liberalisation of the energy sector from 2020. In 2020, the entire energy sector will be liberalised, freeing up the production, transmission and distribution of power. Enterprises from various sectors have been entering the energy business, and electricity supply to residential and commercial buildings has been diversified.

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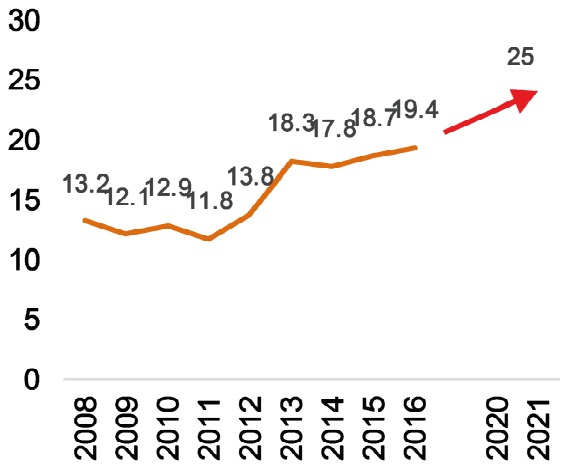
CO_2 reduction rate in the construction industry (actual/target)

Aim to reduce CO_2 emissions by 25% compared to 1990 levels



Sub-sector	Trend and needs	Key product categories
Smart/green buildings	■ The Japanese government is providing robust policy support to promote sustainable/green buildings. ■ Expect electricity suppliers to get into the market more freely after deregulation in 2020. ■ Matching services connecting sellers and buyers and energy asset management services will be among those in demand.	Electricity generation / management technologies; power conditioners; grid systems; accumulators; smart meters; sensors and IoT technologies; sustainable renovation and deconstruction technologies
Machinery	■ Current large spending by the government on infrastructure development such as new expressways and expanded railway networks has led to stable growth of the construction machinery sector. ■ High demand for robotics technologies.	High-performance machinery; robots for welding, cleaning, wire binding, floor polishing, ceiling construction, security, among others
Building materials and building installation	■ Demand for building materials, including raw materials and high-tech materials, has been boosted by the intense development in Tokyo and its surrounding areas in preparation for the 2020 Tokyo Olympics.	Sustainable / green materials; high-functional materials like cellulose nanofiber, ETFE, high-tech glasses, or cross-laminated timber, among others
Management/ others	■ Shortage of labour has led to growing demands for improving construction efficiency. A shortage of 770,000 to 990,000 is expected in 2025. ■ Safe working environments and stable, weather and disaster-proof materials, technologies and systems are urgently needed. ■ Waste management in the building industry. There is vast potential market here towards the 2020 Tokyo Olympics. ■ In the coming 20 years, more maintenance and repair services will be in high demand to tackle deteriorated infrastructures built more than 50 years ago.	IT solutions for construction management; digital construction; building information modelling; quake protections; intelligent security; Vital sensors for workers; AI for cloud management and VR simulations, etc.

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Source: Japan Federation of Construction Contractors