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## INDUSTRY OVERVIEW

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*Unless otherwise indicated, the information in this section has been derived from official government sources. Such information has not been independently verified by us, or any of our or their respective affiliates or advisors. Such information may not be consistent with other information compiled within or outside China.*

### OVERVIEW

#### Introduction of Curtain Wall Systems

A curtain wall system is a building facade system that hangs on the structure of a building to protect its occupants from natural discomforts. It is characterized by being non-load bearing and is generally made of aluminum, glass, granite and other cladding materials.

Curtain wall systems are widely used for offices, public or functional buildings, hotels, shopping centers and residential buildings. The popularity of curtain wall systems stems from its reduced construction period cost, lightweight nature, simplification of temporary construction and strong performance as follows:

- Reduction of construction period cost. By fabricating construction materials in a factory during the early stages of construction, it is possible to reduce the duration of the entire construction process cost through the immediate installation of construction materials after the structure is completed.
- Lightweight. Lighter than other exterior materials such as cast-in-place concrete, brick and others, curtain wall systems reduce the weight of the building and saves considerable costs required for the foundation or structure of the building.
- Simplification of temporary construction. Curtain wall systems allow work to be implemented without large scaffolding, making it possible to simplify temporary construction.
- Strong performance. Curtain wall systems have an excellent control function as a filter to adjust and isolate flows from all the external forces that influence the indoor conditions.

The curtain wall industry has witnessed three generations of products. The first generation of curtain walls refers to those applied from the early to late 1970s, which were mostly stick curtain walls composed of a variety of components assembled onsite, with individual mullions and rails forming a supporting grid for curtain wall panels.

The second generation of curtain walls refers to those applied from early 1980s to mid 1990s, which are represented by unitized curtain walls, a type of frame-supporting curtain wall composed of modulated panels that are fabricated in factories and delivered to construction sites in one piece for installation. The development of the unitized system of the second generation greatly reduced construction costs.

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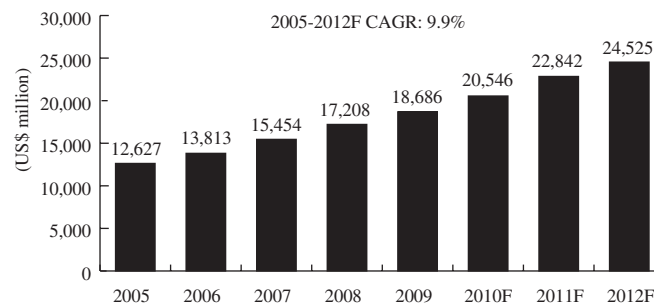
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The third generation of curtain walls refers to those applied from the mid 1990s onwards, the majority of which are unitized curtain walls characterized by energy efficiency, the use of new technologies or diverse functions. Technologies to allow in daylight to reduce heating costs and shading technologies to reduce cooling costs are in demand throughout the world due to environmental concerns. The development of new energy-efficient technologies, such as triple-glazed curtain walls and solar-control glass, are expected to continue to shape the industry. In addition, the demands of architects will continue to influence the industry, as many have sought features such as photovoltaic curtain walls, as well as glasses of differing colors, sizes, materials, coatings and quality levels.

### Global Curtain Wall Industry Overview

The following chart illustrates the total market size of the global curtain wall industry for the periods specified.



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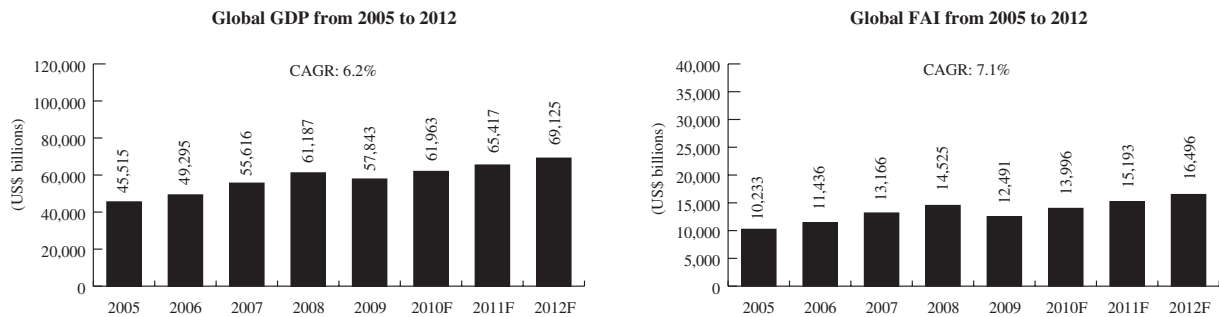
Source: Synovate Report

The global gross output of the curtain wall market increased from approximately US\$12.6 billion in 2005 to approximately US\$18.7 billion in 2009 at a CAGR of 10.3%. Moreover, it is expected to further increase to approximately US\$24.5 billion in 2012, representing a CAGR of 9.5% from 2009 to 2012.

The curtain wall market is primarily driven by the world economy in general and the construction industry in particular. Specifically, the growth of the world economy drives fixed assets investment, including construction of various public facilities, commercial buildings and high-end residential buildings, which in turn drives the market demand for curtain walls. Such construction has provided the foundation for the growth of the curtain wall market.

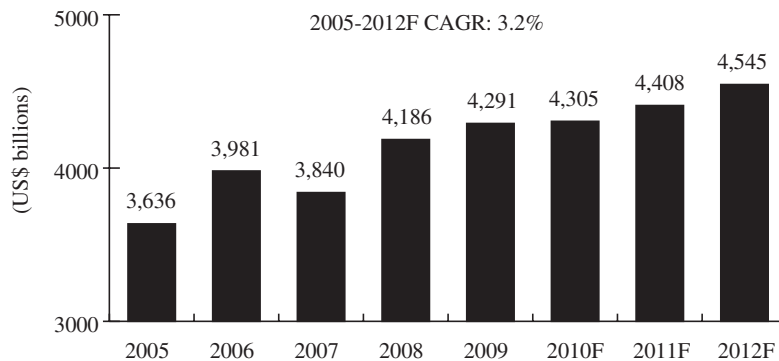
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The following charts illustrate global GDP and FAI for the periods specified.



Source: International Monetary Fund

The following chart illustrates the total market size of the global construction industry for the periods specified.

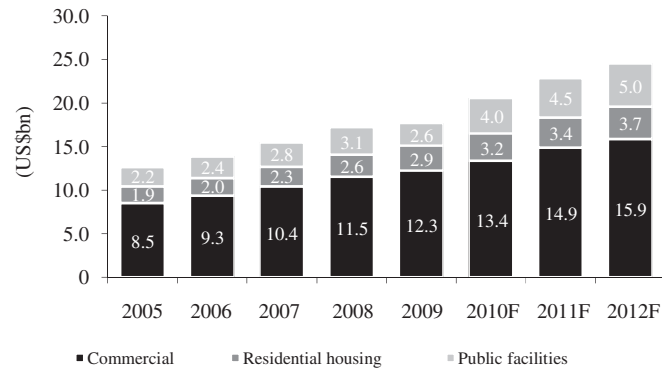


Source: Synovate Report

The curtain wall market can be divided into public facilities, commercial buildings and residential buildings. Public facilities include government buildings, schools, libraries, stadiums, public transportation buildings and other government projects. Commercial buildings primarily include office buildings, hotels, shopping centers, casinos and exhibition and convention centers.

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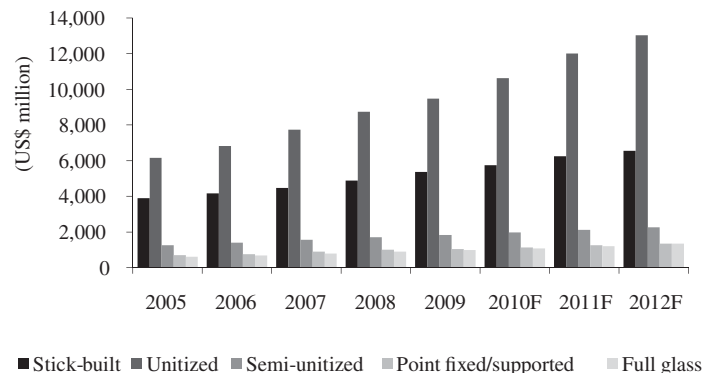
The following chart illustrates the market segmentation of the global curtain wall industry by building type for the periods specified.



Source: Synovate Report

The output of the public facilities segment accounted for approximately 17.6% of the whole curtain wall industry in 2005 and is expected to increase to approximately 20.2% in 2012, while that of the commercial building segment is expected to decrease from approximately 67.4% in 2005 to approximately 64.7% in 2012. The faster growth in the demand in the curtain wall of public facilities is attributable to the increasing investment by governments in the construction of public facilities. The public facilities segment for the construction industry has shown faster growth than commercial and residential segments at a CAGR of 14.6% from 2005 to 2009. Moreover, it is expected to further increase from 2009 to 2012 at a CAGR of 12.8%.

In terms of structure, market demand has been shifting slowly from stick-built to unitized structures, which rely less on skilled labor, provide more consistent quality, and are more capable of offering advanced technological products. The following chart illustrates the market segmentation of the global curtain wall industry by product type for the periods specified.



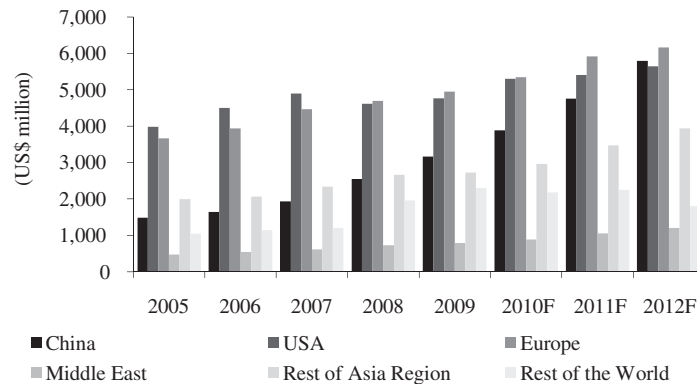
Source: Synovate Report

The market share of unitized curtain wall structures in the total market increased from approximately 48.7% in 2005 to 50.7% in 2009 and is expected to increase to approximately 53.1% in

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2012. On the other hand, the market share of stick-built curtain wall structures decreased from approximately 30.9% in 2005 to approximately 28.7% in 2009 and is expected to further decrease to approximately 26.7% in 2012.

The following chart illustrates the market segmentation of the global curtain wall industry by countries and regions for the periods specified.



Source: Synovate Report

Europe and the United States are currently the two largest regional markets for curtain walls, which accounted for approximately 26.5% and approximately 25.5% of global curtain wall market in 2009.

China has shown the fastest growth in demand for curtain walls compared to the rest of the world at a CAGR of 15.6% from 2005 to 2009, accounting for approximately 16.9% of the global curtain wall market in 2009. This strong growth is mainly driven by the overall growth of the PRC economy and its construction industry. In particular, rapid urbanization in China has contributed significantly to such growth. The PRC curtain wall market is expected to further grow at a CAGR of 20.9% from 2009 to 2012.

The table below sets out the top five global curtain wall manufacturing and contracting companies in 2009.

Rank	Name of Curtain Wall Players	Headquarters Location	Sales Revenue (US\$ million)	Share in Sales Revenue (%)	Growth of Sales Revenue from 2008 to 2009 (%)
1	Permasteelisa S.p.A .....	Italy	1,145	6.13%	-10.1%
2	Shenyang Yuanda .....	China	1,066	5.71%	19.5%
3	Schüco International KG .....	Germany	900	4.82%	N/A
4	Apogee Enterprises Inc .....	United States	852	4.56%	-21.4%
5	Beijing Jangho Curtain Wall Co., Ltd....	China	616	3.30%	-0.2%

Source: Synovate Report (The rankings and market shares are estimated based on the research findings of curtain wall companies that have an annual revenue of RMB50 million or above)

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### Future Global Development Trends

The trend of lowering costs for air-conditioning and heating is expected to continue to be the main driver for the development of the curtain wall industry in the near future, resulting in improvements in energy efficiency and sustainability. "Green" buildings are already very popular in more developed areas such as the United States and Europe, and are starting to be more popular in Asia, the Middle East, and Latin America. Architects have also demanded high-transparency of glass to allow in light while maintaining heat resistance. It is expected that the demand for the high performance curtain wall systems with energy-saving functions and solar-control glass will increase in the near future in order to increase sustainability and energy efficiency. This is the case for triple-glazed curtain wall structures in particular, as they are more energy-efficient and have a lower U-value than double-glazed structures. Thin glass is important for triple-glazed curtain walls structure in order to reduce weight. Solar-control glass can also allow more visible light to pass into buildings, providing illumination and desirable architectural features.

The curtain wall market is architect-driven and is expected to focus on the needs and expectations of architects over the next three years. There is currently a growing demand from architects for photovoltaic curtain wall systems of different colors and sizes, as well as larger glass sizes in different colors. In order to differentiate between building designs, architects also focus on the quality and variety of materials and coatings used for curtain wall products. At the same time, cost effectiveness is a key concern in the market for both developers and end-users, including cost effectiveness related to future energy consumption.

Disaster-resistant curtain wall systems are also expected to be in demand in the near future. The prevention of water leakage (mainly caused by rainwater) and cracking of glass are also areas on which future technological enhancement may focus.

While Europe and the United States will continue to lead the global trends in new curtain wall products and applications, developing countries in Asia, particularly China and the Middle East, are expected to continue to be the engines of global curtain wall market demand for new products and applications in the near future. In this section below, we have provided separate industry information for the curtain wall markets of China, the United States, the United Kingdom and the United Arab Emirates.

### Global Entry Barriers

There are substantial barriers to entering the curtain wall industry due to the large initial investment and strong financial capability required to set up and operate a manufacturing business equipped with advanced technology and research and development capabilities.

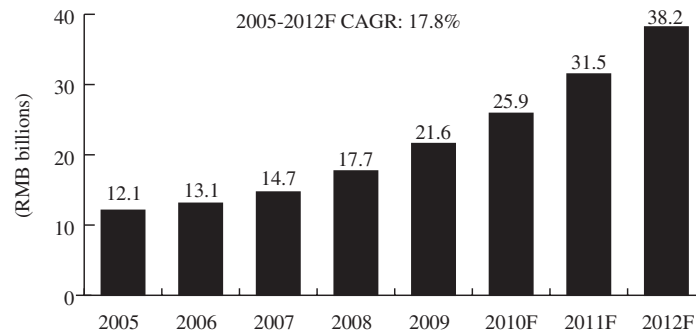
Setting up and operating a curtain wall business requires significant investment and financial support to pay for the technology, equipment, specialists, and factory production facilities. As materials and labor costs become increasingly expensive, the investment required in the curtain wall industry becomes higher. As credit has tightened after the global financial crisis, financing projects by borrowing has become much more difficult. As a result, curtain wall manufacturers that possess strong financial capabilities are best positioned to capture future growth opportunities.

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The curtain wall industry is a technology-intensive industry, and competitors must be well equipped to meet the specifications and requirements of a variety of projects. It is therefore important for competitors to possess the technological capabilities to serve high-end projects which require particular functionality in the curtain walls, such as membrane structures and energy-saving functions.

### CHINA

The following chart illustrates the total market size of the PRC curtain wall industry for the periods specified.



Source: Synovate Report

Note: The total market value only includes those curtain wall companies with a total annual revenue of RMB50 million and above.

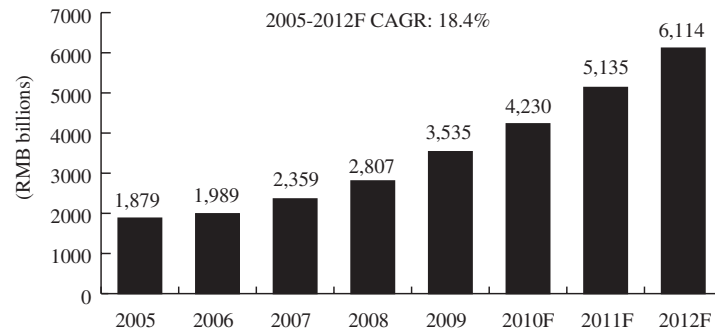
The PRC curtain wall market has grown dramatically from approximately RMB12.1 billion in 2005 to approximately RMB21.6 billion in 2009 at a CAGR of 15.6%. Such growth was mainly driven by:

- Rapid urbanization which leads to continued growth in the construction sector;
- PRC government's policies to boost the development of infrastructure and construction;
- Demand from public events including the Beijing 2008 Olympic Games, the Expo 2010 Shanghai China and the 16th Asian Games in Guangzhou;
- Strong consumer and business confidence which drives the growth of commercial activities; and
- Increased demand for high-rise buildings

It is expected that the PRC curtain wall market will grow further from 2009 to 2012, with a CAGR of 20.9% and reach a total market size of approximately RMB38.2 billion in 2012. In addition to the drivers above, demand for energy efficiency is also expected to become a major driver of the growth of the PRC construction and curtain wall industry in the future. According to the Synovate Report, it is expected that the PRC government will allocate funds to renovate the existing curtain walls of public buildings in a total area of approximately 200 million square meters to switch to energy-saving curtain walls, and it is estimated that there will be an increase in demand of approximately 10 million square meters annually by 2020.

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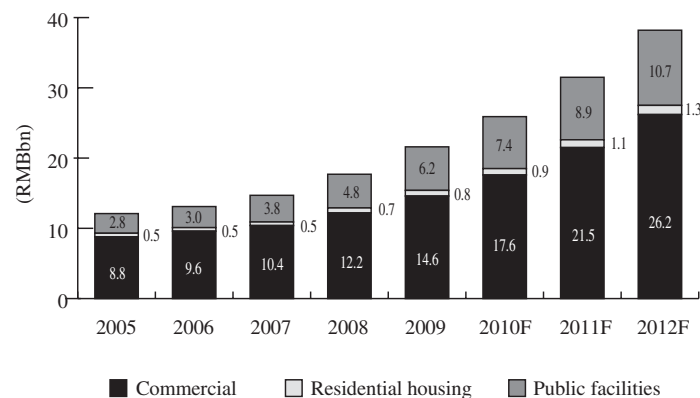
The following chart illustrates the total market size of the PRC construction industry for the periods specified.



Source: Synovate Report

The PRC construction industry grew at a CAGR of 17.1% from 2005 to 2009. Investors in China have increasingly focused on the property sector and the PRC government has emphasized infrastructure investments. Additionally, the ongoing urbanization of central and western China has created significant demand for construction, and is expected to continue for at least the next three years. It is expected that the construction gross output in China will continue to grow at a CAGR of about 20.0% from 2009 to 2012.

The following chart illustrates the PRC curtain wall market size by building types for the periods specified.



Source: Synovate Report

Commercial buildings are the largest market segment of curtain wall products and applications in China, accounting for approximately 67.6% of the total curtain wall market in 2009. It grew at a CAGR of 13.5% from 2005 to 2009 and is expected to grow at a CAGR of 21.5% from 2009 to 2012. As both domestic and foreign companies are expected to set up or further expand their operations in the major cities in China, more commercial skyscrapers with extensive use of curtain walls, which are necessary components of such skyscrapers, are expected to be built in the future.



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The demand for curtain walls for public facilities grew significantly between 2005 to 2009, with a CAGR of 22.0% in market value. The market size for public facilities is expected to increase to approximately 28.0% of the total curtain wall market by 2012. The main drivers for the increasing use of curtain wall in public facilities are the PRC government's policies to boost the development of public infrastructure and large international events that require the construction of more public facilities, such as the Beijing 2008 Olympic Games, Expo 2010 Shanghai China and the 16th Asian Games in Guangzhou in 2010.

The table below sets forth the top five curtain wall manufacturing and contracting companies in China in 2009.

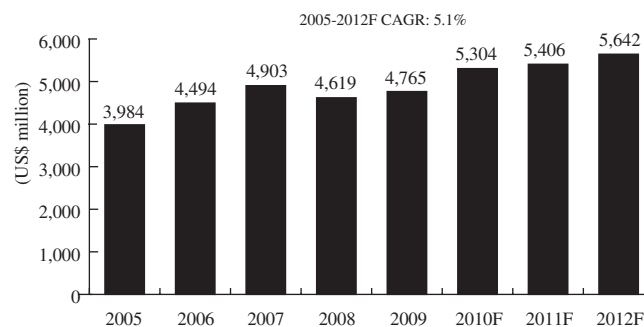
Rank	Name of Curtain Wall Players	Headquarters Location	Sales Revenue (US\$ million) Worldwide	Sales Revenue (US\$ million) in China	Share in Sales Revenue in China (%)
1	Shenyang Yuanda .....	Shenyang	1,066	658	20.8%
2	Beijing Jangho Curtain Wall Co., Ltd. 北京江河幕牆股份有限公司 .....	Beijing	616	306	9.7%
3	Shanghai Meite curtain wall Co., Ltd. 上海美特幕牆有限公司 .....	Shanghai	309	278	8.8%
4	Zhejiang Zhongnan Construction Group Co., Ltd. 浙江中南建設集團有限公司 .....	Hangzhou	294	265	8.4%
5	Shenzhen Keyuan Construction Group Co. Ltd. 深圳市科源建設集團有限公司 .....	Shenzhen	210	210	6.6%

Source: Synovate Report (The rankings and market shares are estimated based on the research findings of curtain wall companies that have an annual revenue of RMB50 million or above)

The top five curtain wall manufacturers had an aggregate total sales revenue of approximately US\$1,717 million in China in 2009, representing a combined 55.6% share of the total PRC curtain wall market.

## UNITED STATES

The following chart illustrates the total market size of the U.S. curtain wall industry for the periods specified.



Source: Synovate Report

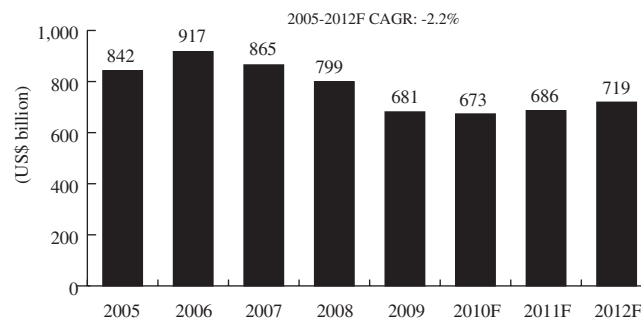
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The U.S. curtain wall market has grown from approximately US\$4.0 billion in 2005 to approximately US\$4.8 billion in 2009 at a CAGR of 4.6%. The U.S. curtain wall market is primarily driven by (i) the recovering global economy; (ii) easing measures undertaken by the U.S. government which are expected to result in increased investment in construction; and (iii) boosted spending on energy-efficient construction as part of the stimulus package adopted after the financial crisis in 2008.

Demand for curtain walls in the United States was traditionally led by commercial buildings. Driven by the growth of the tourism industry and property markets before 2008, the demand for curtain walls for the commercial building segment grew to a peak and reached approximately US\$3.1 billion in 2007. Since 2008, the credit and financial crisis seriously affected the curtain wall market for commercial buildings. In 2009, demand for curtain walls for the commercial segment fell to approximately US\$2.8 billion, representing a decline of approximately 9.3% from 2007. The drop in demand was due to an increase in commercial building vacancy rates and widespread business failures which caused investments in the curtain wall construction for commercial buildings to decline, as well as the tightening of the credit market which lowered the turnover rate of capital and caused developers and investors to either cut down or postpone expenditures on the curtain wall construction.

Supported by government stimulus measures, public facilities were less affected by the downturn and showed positive growth in 2010. Federal and state government support was the core factor offsetting the effects of the financial crisis. Part of the funding from the stimulus package was invested in the curtain wall industry through the construction of public facilities, including the renovation of government buildings, hospitals and stadiums.

The following chart illustrates the total market size of the U.S. construction industry for the periods specified.



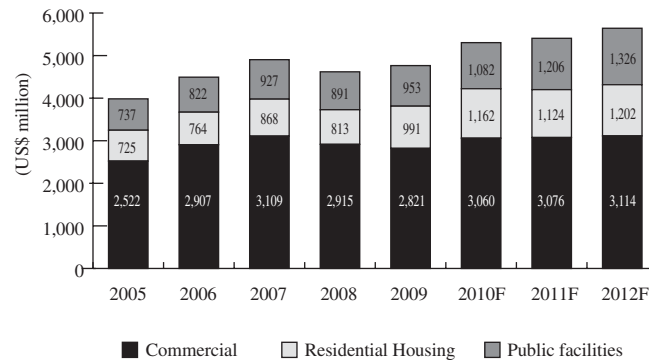
Source: Synovate Report

The U.S. construction industry declined at a CAGR of 5.2% from 2005 to 2009. The downward trend of the U.S. construction market began in 2007 with a sharp drop in residential housing construction, mainly due to the weak consumer spending, mortgage crisis and credit crunch. The financial crisis and recession which started in late 2008 and ran through 2009 caused a significant reduction in all types of construction in the United States.

The decline of the U.S. construction market has continued through 2010, despite recovery in most other sectors of the U.S. economy. According to the Synovate Report, it is estimated that the output value of the U.S. construction industry will decrease slightly in 2010 by approximately 1.1% from 2009. It is expected that the U.S. construction market will recover slowly in 2011 and 2012 at estimated growth rates of approximately 1.9% and 4.8%, respectively.

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The following chart illustrates the market segmentation of the U.S. curtain wall industry by building type for the periods specified.



Source: Synovate Report

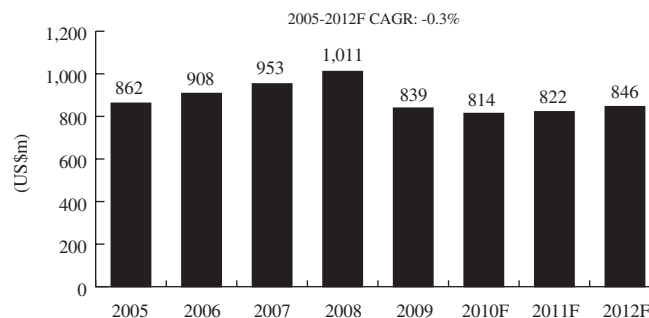
The commercial building segment is the key market for curtain wall products and applications in the United States. In 2009, the commercial building segment was worth approximately US\$2,820.8 million and accounted for approximately 59.2% of the overall curtain wall market in the United States. It is expected that this share will decline to approximately 55.2% by 2012.

The residential housing segment is the second largest market for curtain wall products in the United States. In 2009, it was worth approximately US\$991.1 million and accounted for approximately 20.8% of the overall curtain wall market in the United States. It is expected that this share will rise to approximately 21.3% by 2012.

The public facilities segment is also a very important market for curtain wall products and applications in the United States. In 2009, the public facilities segment was worth approximately US\$953.0 million and accounted for approximately 20.0% of the overall curtain wall market in the United States. It is expected that this share will rise to approximately 23.5% by 2012.

## UNITED KINGDOM

The following chart illustrates the total market size of the UK curtain wall industry for the periods specified.



Source: Synovate Report

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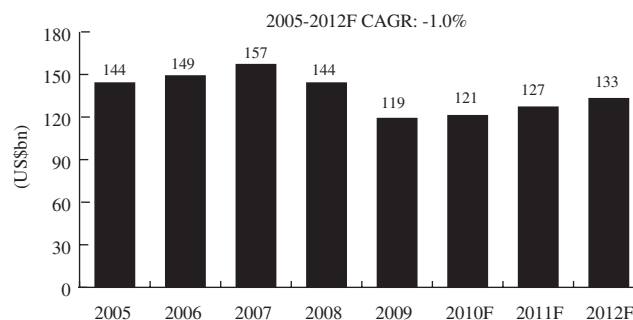
The UK curtain wall market has decreased from approximately US\$862 million in 2005 to approximately US\$839 million in 2009 at a CAGR of 0.7%.

According to the Synovate Report, the major growth drivers for the UK curtain wall market include (i) the recovery of the UK economy and the improvement of the financial system, (ii) the improvement in investor confidence, (iii) the upcoming London 2012 Olympic Games, and (iv) the quantitative easing measures undertaken by the U.S. government which are expected to increase the flow of investment funds into the United Kingdom.

From 2005 to 2008, every segment of the curtain wall industry recorded strong growth, especially the commercial and residential segments. However, the growth momentum changed after the financial crisis in 2008. A sharp drop in demand was seen in every building segment in 2009. As a strong rebound in the UK economy has yet to materialize, the overall curtain wall market in the United Kingdom is expected to remain weak. Growth is expected to be driven by the revival of postponed and delayed curtain wall projects, renewed public sector construction and the resumption of renovations and maintenance for curtain walls.

Many high-rise and large-area office and mixed-use buildings in the United Kingdom will not start construction until 2011, which indicates that demand for customized curtain walls is unlikely to improve until late 2012. It is estimated that the residential and public facilities segments of the curtain wall industry will slightly improve in 2010 and return to their pre-crisis levels by 2012. The CAGRs for residential and public facilities segments from 2009 to 2012 are expected to be 0.9% and 9.4%, respectively.

The following chart illustrates the total market size of the UK construction industry for the periods specified.

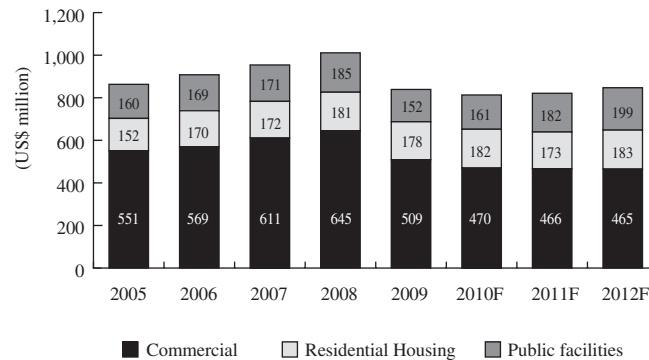


Source: Synovate Report

The UK construction industry declined at a CAGR of 4.6% from 2005 to 2009. The decline is mainly due to the overall decline in the UK economy, and the construction market in particular is highly sensitive. A recovery in the UK construction industry is expected, however, when the United Kingdom emerges from the recession.

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The following chart illustrates the market segmentation of the UK curtain wall industry by building type for the periods indicated.



Source: Synovate Report

The commercial building segment is the key market for curtain wall products and applications in the United Kingdom. Although the commercial building segment experienced strong growth before the global financial crisis in 2008, it decreased sharply as a result of the crisis. In 2009, the commercial building segment was worth approximately US\$509 million and accounted for approximately 60.7% of the overall curtain wall market in the United Kingdom. It is expected that this share will decline to approximately 54.9% by 2012.

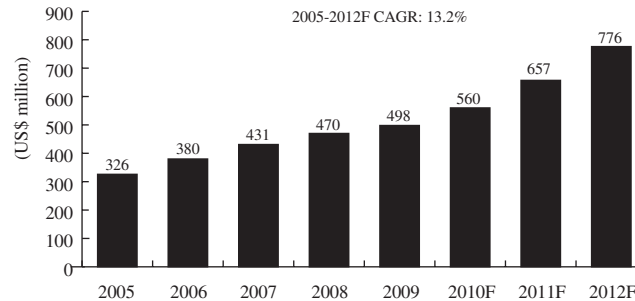
The residential housing segment is the second largest market for curtain wall products in the United Kingdom. In 2009, it was worth approximately US\$177.8 million and accounted for approximately 21.2% of the overall curtain wall market in the United Kingdom. It is expected that this share will rise to approximately 21.6% by 2012.

The public facilities segment is also a very important market for curtain wall products and applications in the United Kingdom. In 2009, the public facilities segment was worth approximately US\$151.8 million and accounted for approximately 18.1% of the overall curtain wall market in the United Kingdom. It is expected that this share will rise to approximately 23.5% by 2012.

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### UNITED ARAB EMIRATES

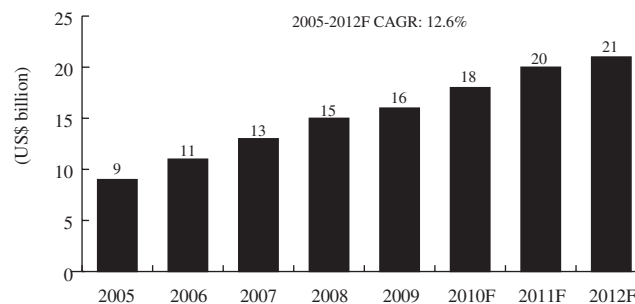
The following chart illustrates the total market size of the UAE curtain wall industry for the periods specified.



Source: Synovate Report

The UAE curtain wall market grew significantly from approximately US\$326.4 million in 2005 to approximately US\$498.0 million in 2009 at a CAGR of approximately 11.1%. According to the Synovate Report, the major growth drivers in the UAE curtain wall market include (i) an increase in government expenditure on infrastructure, (ii) a decline in price of raw materials, and (iii) a clear regulatory environment relating to private investments in infrastructure and the Dubai World debt restructuring proposals which have boosted private investors' confidence and encouraged investment in properties and other construction projects.

The following chart illustrates the total market size of the UAE construction industry for the periods specified.

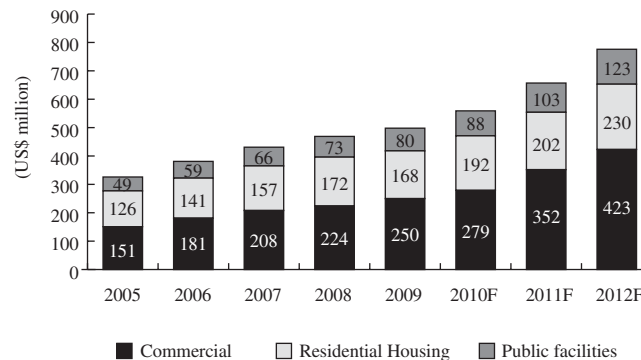


Source: Synovate Report

The UAE construction industry grew at a CAGR of approximately 15.2% from 2005 to 2009 in value. UAE's construction industry has grown significantly benefiting from the decade-long oil boom and surge in investment. Growth from 2005 to 2009 was partially driven by the residential sector of the construction industry as rising house prices in earlier years attracted consumer spending and investment in properties and other construction activities. It is expected that growth will be sustained given major infrastructure spending in Abu Dhabi and the strength of the commercial and residential construction sector. It is expected that the UAE's total gross construction output will continue to grow at a CAGR of 9.3% from 2009 to 2012.

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The following chart illustrates the UAE curtain wall market size by building types for the periods specified.



Source: Synovate Report

The commercial building segment is the key market for curtain wall products and applications in the UAE. In 2009, the commercial building segment was worth approximately US\$250.0 million and accounted for approximately 50.2% of the overall curtain wall market in the UAE. This share is expected to increase to approximately 54.5% by 2012.

The residential housing segment is the second largest market for curtain wall products in the UAE. In 2009, it was worth approximately US\$168.3 million and accounted for approximately 33.8% of the overall curtain wall products and applications in the UAE. This share is expected to decrease to approximately 29.6% by 2012.

The public facilities segment is also a significant market for curtain wall products and applications in the UAE. In 2009, the public facilities segment was worth approximately US\$79.7 million and accounted for approximately 16.0% of the overall curtain wall market in the UAE. This share is expected to remain relatively stable at approximately 15.9% for 2012.

### SOURCES OF INFORMATION

We have engaged Synovate Ltd., an independent third party, to conduct a study of the global curtain wall market in general, and the curtain wall markets of China, the United States, the United Kingdom and the UAE in particular. Synovate Ltd. is a research institute founded in 2003 and the market research arm of Aegis Group plc, a media communications company listed on the London Stock Exchange. We have included certain information from the Synovate Report in this document because we believe such information facilitates an understanding of the curtain wall market for potential investors. The Synovate Report was prepared based on (i) desk research of government statistics, commercial databases and reports, media news, online sources, Synovate Ltd.'s in-house database, and (ii) in-depth interviews with curtain wall manufacturers and contractors, real estate investors and developers, quantity surveyors and industry experts. We have agreed to pay a total of HK\$1,456,000 in fees for the preparation of the Synovate Report.