Belgium: The Maritime & Port Infrastructure Market

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Introduction

Belgium lies in the middle of the prosperous northwestern part of Europe, with 60% of Europe's purchasing power within a 300-mile radius. Its infrastructure, including ports and transportation networks over road, rail and water, are essential to the country's role as transit hub for goods to and from important economic centers such as the Netherlands, Germany's Ruhr area, northern France, Austria and the new manufacturing regions of Eastern Europe.

Belgian governments have supported consistently policies to develop this logistical role to stimulate economic growth and job-creation. This effort is now continuing unabated, with massive investments in transport infrastructure and incentives to the private sector to develop such assets. This is important for U.S. companies, whether exporting to Europe through Belgium, or looking to tap into the opportunities that by these investments generate. The U.S. Commercial Service in Belgium is organizing a trade mission on the theme of port logistics, infrastructure, environment and security in May 2009 to help U.S. firms take advantage of these commercial leads (see http://www.buyusa.gov/europe/security_events.html#_section2). An outline of the current opportunities is given on pages 9-10 of this report.

Market Highlights

The Kingdom of Belgium is a federation of three Regions (Flanders, Wallonia and Brussels) with three national languages, of which Dutch and French are predominant. The country is densely populated and heavily industrialized. Roughly the area of Maryland, Belgium has a population of 10.5 million and a GDP (2007) of EUR 327 billion (USD 420 billion). Belgium's economy has many small and medium enterprises, and is focused on the manufacturing and services sectors. Many U.S. firms choose Belgium as the hub for their European distribution because of the access to a highly educated workforce and excellent transport infrastructure, including major port terminal facilities and a dense road network. In Flanders alone, 14% of all foreign firms are U.S. companies, mostly active in medium- to high technology sectors.

This small European nation ranks as the 12th largest market for U.S. exported goods and services, but rises to 11th position if transit goods are included, showing the relevance of Belgium as a transit country. Trade between the United States and Belgium is fairly balanced, with Belgian exports to the United States representing USD 22.7 billion in 2007, and U.S. exports to Belgium amounted to USD 20.2 billion in the same year. There has also been a tremendous increase in Belgian direct investment into the United States, at USD 19.5 billion in 2007 making it the tenth largest investor in the nation.

Approximately 35,000 U.S. citizens have their residence in Belgium, and the country is host to 1,600 American companies employing 8% of the working population, that together are responsible for 6% of GDP, 14% of R&D expenditures and 15% of the country's exports.

The Flemish seaports of Antwerp, Ghent, Zeebrugge and Oostend play a major role in Belgium's economy. They generate economic added value and employment both directly and indirectly in the logistics (transport, handling and distribution), industrial and services sectors. Economic growth in the port areas by far surpassed the growth of the national economy. The added value of these four ports reached EUR 25 billion in 2004, almost 9% of national GDP in that year. Especially the manufacturing and automobile (Ghent, Zeebrugge), chemical (Antwerp), shipping (Antwerp and Oostend) and logistics (Zeebrugge and other ports) sectors generated this growth.

Wallonia has no coastline, but noteworthy is the inland port of Liege as well as an elaborated network of inland waterways, which include a number of impressive ship elevators, to overcome the height differences in the hilly south of the country to access France and beyond. Brussels also has an inland port just north of the city, primarily focused on logistics and warehousing. Recent port infrastructure investments and the Liege and Brussels port developments are part of the political-economic strategy to use the country's important logistical activities to generate further economic added value and employment. The inland port of Liege has grown to represent almost 1% of the country's GDP, owing mainly to its activities in the manufacturing, steel and energy industries.

Political Market Drivers

a) European Union level:

Many policy issues have become the (often exclusive) competence of the European Union (EU). This affects the EU's member states, and sometimes extends to the countries of the European Free Trade Agreement (Norway, Iceland, Switzerland and Liechtenstein). Regulation through the EU's institutions is especially required in those areas where the implementation of a new policy could penalize national economies, thereby offering a comparative advantage to the individual countries holding on to existing measures, or other free-rider incentives, implying the need for concerted and simultaneous action. Environmental legislation and the development of transport infrastructure are good examples of areas where a top-down approach is required. The European Commission (EC) has imposed greenhouse gas reductions onto its member states in line with its Kyoto Protocol commitments, and on the infrastructure front the EC has just announced a plan to finance 11 Europe-wide infrastructure projects totaling EUR 1.7 billion (USD 2.2 billion) until the year 2013.

The development of EU policies is a complex process where the member states (through the European Council of ministers), the EC and European Parliament seek a compromise, transferred into legislative texts that then apply to all member states that have more or less freedom of interpretation and implementation of the new law.
In 2000, the EU launched its sixth Environmental Action Program under the header Clean Air For Europe (CAFE). Several directives have been issued that compel member states to address pollution, capping among others concentrations in ozone, benzene, CO, SOx, NOx, and heavy metals in the environment. Some of these

directives apply to the maritime sector, and some specifically target it, such as limitations on sulfur content in marine fuels and bans on certain anti-fouling paints.

Discussing the detail of the CAFE program is beyond the scope of this report, but what is important to note is that environmental control is an important policy area that is being implemented under a strict timeframe as the EU's international credibility depends upon it, and that efficient transport infrastructure throughout the EU is seen as part of the solution towards pollution reduction. Projects such as a trans-continental railway network (TEN-T project), support for the development of short-sea shipping as an alternative to road transport (Motorways of the Sea project) and financial incentives for increasing the capacity of inland navigation routes are all concrete results of the EU's current priorities. These pose challenges and opportunities to the EU's member states, especially Belgium as Europe's logistical hub within a heavily industrialized region.

b) National Levels - Federal, Regional & Port Authorities:

The issues that drive European policies affect Belgium's national goals: pollution control, reduction of congestion problems, and regional economic development, especially since Belgium has implemented a long-term strategy to develop the country into the most important logistical hub on the European mainland.

The port areas are a key ingredient of Belgium's economy that face opposing interests. On the one hand, the transit of goods through Belgian ports is a vital activity that the country's institutions must support and develop. On the other hand, the country is densely populated, has imminent road congestion problems (as much of north-western Europe), and lies within an area that has the highest levels of pollution of the continent. The federal and regional governments have a two-pronged approach: invest and develop logistical infrastructure to ascertain future growth of the logistical sector, while at the same time shifting traffic from the traditional road network towards railroad and inland waterways to reduce pollution from trucks – a shift in modal split. The following illustrates this strategy.

The predominance of Flanders with its four seaports implies that most of the country's policy-making in this sector comes from the Flemish government, but the federal government oversees that regional plans are coherent nationally. After the June 2007 elections, the new Prime Minister of Flanders Kris Peeters took with him the portfolio for maritime affairs from his previous position as Flemish minister for Transport & Infrastructure. This uncommon step illustrates the importance of this industry for the current political leaders in Flanders. Indeed, one goal of the Flemish government is the creation of a maritime cluster in which all four seaports are represented, and marketed worldwide as one single maritime hub called the "Flanders Port Area". This consolidation is necessary to maximize the attractiveness of the region for international clients, which was otherwise undermined by internal competition between the four ports, and to fence off competition from other North Sea ports on the European mainland (especially Rotterdam, Hamburg and Le Havre). The rationale behind this strategy stems from the fact that each of the Flemish ports has a unique comparative advantage due to its geographical setting, harbor design or established industries, that don't really overlap with one another. Although the different ports, located within 60 miles of each other, still compete among themselves, their combined marketing efficiency is improved by showing one single face to the world. Their promotion is aggressively pursued and endorsed by political actors through international trade missions and other activities.

The development of port terminal capacity, with an initial focus on container handling, increases the need for addressing the hinterland connection infrastructure. In Antwerp, 60% of imported containers are forwarded by truck, 32% by inland waterways and only 8% by rail. In the port of Zeebrugge, the modal split is 60% by road, 38% by rail and just 2% by inland waterways. The federal government would like a balance of 40/40/20, respectively. This means that a lot of work needs to be done to improve the hinterland connections over water and rail.

Several studies in the United States and Europe have shown that transport over water yields less pollution compared to road or railroad traffic, per ton of transported goods. This ties in with the development of the port's hinterland connections, and has triggered an interest to promote inland waterways as an alternative to road transport. Apart from the rising requirements for inland vessels and crews, inland terminals are a precondition for acceptance by the industry of this mode of transport as reliable and cost-effective.

Since 1998, the Flemish government has supported the development of quaywall infrastructure through public-private partnerships with the help of the EU: the government pays 80% of the capital expenses for the construction of the quaywalls, while the private company pays 20% as well as all necessary superstructures and assets (cranes, warehouses etc.) and guarantees a minimum yearly tonnage handled by the new facilities. By the end of 2005, 119 requests for inland terminal development had already been deposited spread around Flanders both on primary and secondary waterways for all sorts of goods: dry bulk (32%), liquid bulk (18%), general cargo (6%), containers (31%), and scrap (13%). Under this successful scheme, 50 inland terminals have been developed until 2005, and these helped to avoid 1,356,000 truck moves (of which 475,000 in 2005 alone). This public-private partnership scheme is therefore seen as a means to develop the country's logistic capacity as well as reducing pollution, and the project will be continued at least until 2010.

Environmental policies are a competence of the regions in Belgium. Hence, the three regions will have a large degree of freedom to implement pollution-reducing measures to attain the quantitative results imposed by the EU. In Flanders, it is expected that the port areas will bear most of the burden to reduce the region's emissions. This may result in a disproportionate demand on the industries in the port areas, which will be called upon to invest in pollution-mitigating measures, be it gaseous, dust particles or water pollution. Power plants, chemical sites and terminals may be especially scrutinized.

Apart from general pollution associated with industrial areas, ports also face specific environmental concerns. A 2004 study ordered by the EU has assessed the environmental risks in marine transport and made suggestions for the best means for mitigation. As this report was co-authored by private enterprises, it is likely that these measures will be retained in practice. The most important risks are identified in ballast water, ships' anti-fouling and air emissions.

The threat from ballast water consists in the fact that organisms originating from one place in the world travel in the ships' ballast tanks and, when released, can contaminate entirely different ecological settings with unpredictable consequences. A short-term solution is to exchange ballast in the open ocean, before entering port. This is not an ideal solution, not always practicable and also potentially dangerous for the ship (possibility of listing or capsizing). Mid-term solutions are avoiding ballast water release altogether (often impractical or impossible), addition of biocides (costly and also potentially unsafe) or loading of pre-treated water (costly), and oxygen deprivation. The preferred long-term solutions are the use of biocidal tank coatings (may only be relevant for newbuilt ships), use of screens or filters, treatment with ultraviolet light, ultrasonic frequencies or heat, or the discharging of ballast water to shore-based treatment facilities.

For anti-fouling paints, the report suggest the use of copper or silicone based paints, but warns that these materials may also harm the environment but to an unknown extent as the development of these paints is recent and effects not yet overseen. Further research and development is needed in this field, which could present lucrative commercial opportunities.

Regarding air emissions, the report recommends the widespread implementation of low-sulfur fuels, regular engine maintenance and the use of NOx-reducing equipment such as selective catalytic reductors (SCRs) and direct water injection (DWI) systems. Currently, marine fuels in European waters may not exceed 1.5% sulfur, and vessels may not burn fuel exceeding 0.1% sulfur content while in a European port.

It is very well possible that port authorities will impose differential harbor dues in the future (reductions for cleaner ships and penalties for relatively polluting ones) to create financial incentives to ship operators to invest in cleaner vessels and speeding up the return on investment for the extra costs of the mitigating equipment.

Economical market drivers

Logistics

The Flanders Port Area is a principal hub for imports into the EU, with 60% of goods handled by these ports transiting onward to neighboring countries via the hinterland connections, or transshipment on all the short sea shipping routes. Cushman & Wakefield's yearly European Distribution Report consistently ranks Belgium as the best country on the mainland for its attractiveness to the logistics sector, considering costs, accessibility, infrastructure, labor and know-how.

The rise in maritime traffic in recent years has been a catalyst to the expansion of Belgium's handling capacity of goods. The bulk of the increase has been in the form of containerized transport, so this form of transport has received most attention, notably with the development of new marine container terminals and freight railways from the terminals to the manufacturing and consumption areas in the hinterland (see further detail hereunder). This process is ongoing, as the construction of land connections have lagged behind the completion of terminals, and as attention is broadened to other forms of cargo such as dry and liquid bulk.

Petrochemical

The (petro)chemical industry is a major component of Belgium's economy, and chemical products represent 54% of the country's exports to the United States. At the same time, 38% of all US exports to Belgium are chemical products.

Antwerp has an extensive petro-chemical cluster, the second in the world after Houston, Texas. Seven of the world's top ten chemicals companies have production facilities in Antwerp, leading to large trade volumes. Its five refineries have a combined annual production capacity of 40 million metric tons.
The petrochemical cluster hosts 40% of the port's direct jobs and is responsible for half of the port's added value. The many petrochemical sites, from production to storage, are interconnected by a network of over one hundred pipelines, and there is also a pipeline connection to the port of Rotterdam in the Netherlands through which over 30 million metric tons of crude oil were imported (2006).

Maritime industry

Although construction activities of seagoing ships have disappeared altogether after the last shipyard went out of business in 1994, the intense maritime activity in the seaports lead to various direct and indirect opportunities for countless companies active in ship maintenance and repair and importers and distributors of goods for the shipping industry etc. The Belgian shipping cluster still generated EUR 1.117 billion in added value in 2004, and employment for over 12,000 people.

Since 2004, Belgium has changed its fiscal regime as applies to shipping (mainly exemptions from certain taxes) with the aim of reflagging the vessels owned by Belgian companies to the national flag. This in turn has a positive effect on employment, safety at sea, added value and improved economic perspectives in the shipping industry. The policy has been successful, with a sudden increase in Belgium-registered vessels since the new legislation was passed.

Belgium is also host to various maritime companies, including major players in shipping (Exmar, Euronav, CMB). Of the global merchant vessel fleet, Belgian companies operate three percent of the LPG tankers, three percent of the LNG tankers; five percent of the roll-on-roll-off vessels and one percent of the world's service vessel fleet.
Belgium also has several big players in the field of marine construction (Besix, DEME Group through its many affiliates) and dredging (Dredging International - of the DEME Group, Jan de Nul). For the latter, it is worth noting that Belgium's dredging companies together with their Dutch competitors account for 60% of global sales in worldwide dredging contracts. This sector is thriving owing to global economic growth, demographic expansion, tourism, climate change and a number of large land-reclamation projects, especially in the Middle East.

Security

Port areas are traditional key points on both official and illicit trades, and have been the subject of security policies to combat human, narcotics and other smuggling. Since the terror attacks of September 2001, much emphasis has been put on the controlling for trade in munitions, weaponry and radioactive materials. U.S. national security concerns have prompted the development of new programs to reinforce security at foreign sites relevant to international trade with the United States.
The U.S. Department of Energy has supported a program to install X-ray container scanning equipment in the port of Antwerp through two sites (one per embankment) to have the capability to inspect containers without opening them. Simultaneously, the containers are checked for radioactive radiation. This is called the Megaports project. One scanning site has been operational since 2006, the second to be commissioned later this year. Some 60% of all U.S.-bound containers will thus be checked (the remaining 40% are containers that are unloaded and loaded directly from ship to ship, without the opportunity to scan them).
Belgium was one of the first countries to sign a Memorandum of Understanding with the United States in 2002 on the Container Security Initiative program that proposed, among others, a 100% scanning of all ship containers bound for U.S. ports (the Secure Freight Initiative). The 100% requirement is a distant target because of feasibility and logistical problems, but a local team of the US Customs & Border Patrol scrutinizes the bills of lading of US-bound containers. Those containers that may pose a risk are being sent to the Megaports container scanning site for X-ray imaging and further inspections. Both Antwerp and Zeebrugge are partners in the Container Security Initiative.

Market Development

a) Sea ports:

The turnover in Belgian seaports has increased year on year since 2001, amounting to 203 million metric tons for the first three quarters of 2008. This is an increase of 6.6% as compared to the first three quarters of 2007, and container traffic specifically grew by 9.4% to reach 8.4 million TEU (Twenty foot Equivalent Unit). On overall traffic, the port of Ghent grew most with 13.4%, followed by Antwerp whose turnover increased by 7.2%, an impressive figure for such a large and mature port. The division per cargo is broadly as presented in the following table (figures of 2006, cargo in thousand metric tons, containers in TEU).

Cargo Category	Inward	Outward	2006 Total	
Dry Bulk	36,592	8,744	45,336	Source: Eurostat
Liquid Bulk	34,020	13,059	47,079	
Other General Cargo	10,925	11,865	22,790	
Ro-Ro (non-self-prop)	8,874	12,949	21,824	
Ro-Ro (self-prop)	3,921	4,958	8,878	
Containers	30,054	42,537	72,591	
Container (TEU)	4,226,194	4,486,541	8,712,735	
BE Total (not incl. TEU)	124,386	94,112	218,497	

i) Antwerp

The port of Antwerp, located some 75 km (47 miles) up the river Scheldt from the North Sea, is the largest Belgian port, covering some 14,000 hectares, including 4,800,000 square meters (almost 51 million sq. feet) of covered storage area. The deepening of the River Scheldt, commenced in 1996 and now ongoing in the Dutch part of the access route, and the recurrent dredging works on the Scheldt estuary make the main port accessible to the largest container ships. The older part of the port is accessible for Panamax-size vessels.
The overall traffic in the port of Antwerp has had a continuous growth since 2001, to reach 183 million metric tons in 2007, representing 70% of total turnover from Belgian seaports. The increase is owed mainly to the rise in global container traffic, the completion of new terminal facilities and the starting up of new shipping lines to other

European countries, North America and Asia. The port has a very strong position in container handling (8 million TEU in 2007), general cargo (through the numerous specialized terminals) and wet & dry bulk goods.

The port of Antwerp exchanges over 22 million metric tons of goods with U.S. ports per year, and is the largest European port for container traffic with the United States (970 thousand TEU inbound and 585 thousand TEU outbound North America in 2007). In 2005, the port of Antwerp opened a new terminal, called "Deurganckdok", solely targeted at handling containers, with an ultimate capacity of seven million TEU. Unlike the rest of the port, the Deurganckdok has direct access to open waters without hindrance of locks – it is therefore more efficient with shorter turn-around times for visiting ships, but is also subject to tides. The important investment costs (634 million EUR, about 820 million USD) and the high yearly dredging maintenance expenses (25-30 million EUR per year) show the region's dedication to developing port infrastructure. The terminal is under long-term lease to Singapore's PSA and the Dubai's DP World. When entirely operational, it is expected that one truck will enter or depart the terminal every three seconds.

Road connections, already very congested in the Antwerp port area, are hindered further by the fact that the city's beltway is not closed: there is no road crossing the river Scheldt estuary. In 2006, a project was launched (the "Oosterweel-connection") by open tender for closing this gap, involving a series of tunnels and elegant suspension bridges. Opposition by local residents, alternative bidders and some political parties has targeted the environmental impact, the economic rationale and the enormous costs of the project (estimated at some EUR 2.5 billion). Currently an independent engineering group is re-assessing the project, with as yet unknown delays.

Despite Antwerp being one of the leading European rail ports with 250 freight trains handled each day, the railroad connections have the same problem as the beltway: there is no link across the Scheldt estuary to facilitate traffic form the west bank terminals. In November 2008, a public-private partnership was launched between Infrabel (Belgium's railway infrastructure company) and a consortium of European construction groups to drill two single-track tunnels under the river, to link the west bank (including the new Deurganckdok container terminal) to the European Transport Network (TEN-T, a EU sponsored project to further the integration of European railways). The project costs are estimated at 750 million EUR (about 960 million USD), and to be finalized by 2014. The Flemish region finances this project with EUR 107 million, while the European Investment Bank has granted a loan of about EUR 300 million. Pending the creation of this link, the Port of Antwerp authority is encouraging the terminal operators to invest in so-called "last mile" connections to ensure railroad access right up to the container terminal premises. The primary focus is on the west bank where access problems are most significant. Since the summer of 2008, rail operator AP Rail has provided the five largest container terminals with this "last-mile" service, and intends to develop this service to bulk and general cargo traffic. The Antwerp port authority for its part seeks to have more of such rail operators providing this "last mile" service, and also actively seeks partners to develop the hinterland connections (see Press Release of Nov 18th 2008 *"Antwerp Port Authority seeks partners for hinterland development"* on www.portofantwerp.com).

Another container terminal, the Saeftinghedok, is planned for 2015, but the realization of this project is made subject to continued growth in global container traffic and the solving of the congestion problems with the hinterland routes.

ii) Ghent

The port of Ghent lies upstream on the River Scheldt and has access to the sea via a 21-mile canal with locks. It is a multi-purpose port with specialized terminals for the handling and storage of grain, coal, ores, petroleum products, vegetable oils etc. The port provides employment for over 28,000 people, and its overall turnover in 2007 was 25 million metric tons. The main cargoes are containers (35,000 TEU) and dry bulk (17 million metric tons). Locally present industries include steel, (petro)chemical, automobile and agricultural. The port of Ghent has few congestion problems for its hinterland connections, with direct road links to international motorways towards France, Germany and the Netherlands. Similarly, the port has good access to the European railway network and inland waterways. However, the port suffers from accessibility restrictions for sea vessels calling in the harbor, because ships have to pass the Ghent-Terneuzen canal that is limited to vessels with a maximum draught of 12.50m (about 41 feet) and 80,000 Deadweight Tonnage (DWT).

The port authority actively lobbies for grants to broaden its sea canal and the locks that obstruct its access to the open waters. Feasibility studies are underway to determine the best ways to face this problem and maximize the port's unique advantages of good multimodal hinterland connections and the availability of land.

The Kluizendok project has led to the development of 400 hectares (about 1.5 square miles) of land on the left bank of the Ghent-Terneuzen canal, affected to port use and serviced with multimodal connections. The draught at the docks will be 18 meters (about 54 feet) pending the planned replacement of the locks in Terneuzen for wider and deeper ones, to increase the port's capacity to accept bigger ships.

The local authorities have supported the development of a new "knowledge center" focusing on bio-energies, called Ghent Bio Valley, under a public-private partnership scheme between the local university, city municipality, port authority and various industrial actors. The mission of the project is to develop sustainable bio-energy activities and promote economic growth for the area. Europe-wide growth in the market for biofuels and electricity production using biomass is expected in the near future, and Ghent has developed projects in this sector that have received the majority of the federal government's quota of duty-free biofuels production. For the city, the aim is to become a cluster for European biofuels, and increase the maritime traffic in agricultural base products through its port.

iii) Zeebrugge

The port of Zeebrugge is located right on the coastline, with an outer harbor protected by breakwaters, allowing for a short approach route and quick turnaround times. It is accessible for the largest vessels since draught was increased from 15.5 to 16.8 meters (51 to 55 feet). The port serves both deepsea and shortsea traffic, the latter especially towards the U.K., Scandinavia and the Iberian peninsula. Total cargo traffic amounted to 40 million metric tons in 2006 and the port employs some 11,000 people. Main cargoes are container traffic that tripled in the last ten years to reach 1.6 million TEU in 2006 as well as roll-on-roll-off (ro-ro) for the transit of automobiles, where the port is market-leader in northwestern Europe (about 2 million units per year). The port also has a dedicated LNG terminal that supplies some 30% of Belgium's natural gas needs.

The rise in container traffic is eased by the fact that Zeebrugge has one of the few European ports able to accommodate the largest container vessels. In 2006, Danish operator APM Terminals sold a 40% stake in its container terminal to China's Shanghai International Port Group. The ensuing investments, as well as further development of the second terminal "Container Handling Zeebrugge" and the construction of a new third one by PSA/HNN will eventually lead to a total annual capacity of 4-5 million TEU.

The Belgian independent gas network operator Fluxys owns and operates the Zeebrugge LNG terminal. The company has invested some EUR 165 million (USD 215 million) in a fourth storage tank with associated regasification facilities.

To develop the hinterland connections in a balanced modal split, preference is given to railroad connections. A fixed train connection has been created since 2006 with the city of Duisburg in Germany's industrial Ruhr area, leading to a 10% drop in road traffic. The Belgian railway operator Infrabel intends to invest EUR 200 million (USD 260 million) in railway infrastructure for Zeebrugge's hinterland connections alone. To support inland navigation, a study is underway to assess the feasibility of connections to the Netherlands, Germany and northern France for ships up to 4,500 metric tons. If the findings of the report show the investment to be beneficial, the works may start in 2012.

iv) Ostend

The port of Ostend, also located on the coastline, is primarily focused on ro-ro traffic and bulk goods, especially to and from the U.K. with trucks loaded with goods or containers ferrying between the European mainland and the British Isles. It is the only port that saw a reduction in container traffic in 2006. The reason is that the port has reached its maximum capacity under current conditions. A project has been launched to dredge the entrance channel, with subsequent development programs to increase the capacity over the coming years.

The port of Ostend was once Belgium's largest passenger harbor, but this activity has reduced sharply in recent years, being gradually replaced by handling of goods. Apart from ro-ro, a major part of the total traffic is sand and gravel dredged from the sea for the building industry. Since 2001 there has also been a container activity in Ostend, though on a much smaller scale than at Antwerp or Zeebrugge.

b) Inland ports:

i) Liege

Liege is an old city that was a major industrial center from the Industrial Revolution in the late 19th Century onward to the 1950s. With the closure of the coalmines in the area, and bad economical policies, the city lost much of its importance. Though some heavy industries remain active, they operate largely at a loss, and the biggest player Arcelor (now owned by India's Mittal Steel) announced in 2003 the forthcoming closure of its hot works (foundry & pressing) in the area, leading to a decline in employment. This has triggered a strategic rethinking of the city's future, in which its port plays an important role, with various projects aimed at developing activities with high added-value using government support and public-private partnerships. Due to its particular location, the best prospects were recognized in the field of transport and logistics.

Conveniently located on the river Meuse linking Liege to industrial centers in the Netherlands, Germany, France and Switzerland, the riverbanks are a logical place to develop a logistical hub ensuring the hinterland connections of international ports such as Antwerp, Rotterdam, Dunkirk, Le Havre and Hamburg. With sufficient land available, the port takes advantage of the congestion problems and land-price increases in those coastal areas. Opportunities are envisaged especially in warehousing and multi-modal transshipment, where goods can be transferred to trucks, railroad or dedicated inland vessels. One project now well underway is the creation of a tri-modal platform (the three modes being water, road and rail) just north of the city, called TriLogiPort, that spans 100 hectares (about 0.4 square miles).

The main investments currently come from the energy, chemicals, metals industry and construction sectors. In 2007, the port of Liege handled a total of 21 million metric tons of goods, making this the third inland port of Europe.

In July 2008, the port authority selected the concession-holders for a 15 hectare (37 acres) container terminal (Australia's Babcock & Brown through its Belgian subsidiaries Water Container Terminal and Manuport Group) and logistics areas (30 hectares / 50 acres to Germany's Deutsche Lagerhaus Gesellschaft and 10 hectares / 25 acres to Belgium's Warehouses De Pauw). Concessions are still open for 14.7 hectares (36 acres) of general port terrains (if you would like more information on this, please contact Commercial Specialist Thomas Happel, contact details at the end of this report). For a complete list of current concession holders, please see http://www.portdeliege.be/en/dealers/ list.aspx?vall=o.

The port area has a potential to cover 366 hectares (over 1.4 square miles) of land, so subsequent development phases may follow the current one, depending on demand.

ii) Brussels

The port of Brussels is small, but is home to more than 300 companies, most of them small & medium enterprises. Its main advantage is its location, in the center of Belgium, and near the heart of the Brussels agglomeration with many different industries and storage areas, especially for construction materials. The port had a turnover of 7.4 million metric tons in 2006, 60% of which carried over inland navigation and 40% by road. The port area is near Brussels' beltway which provides easy access to international highways, and connected to the inland waterway network through the northbound Brussels-Scheldt Canal to and the southbound Brussels-Charleroi Canal. The port can accommodate inland ships up to 4,500 DWT.

As the traditional port sites are now used, new efforts are being made to develop acreage for port infrastructure and increase capacity. The port authority foresees private investments in the order of EUR 3.5 billion (USD 4.5

billion) in the near and mid-term future and aims at a 50% increase in traffic, including 25.000 TEU at the port's container terminal.

Competition and Barriers to Entry

Port areas by definition have an open view on the world as their business is essentially international. Globalization and the need for ever improving efficiency means that the traditionally strong sense of identity, favoring local businesses over others, is eroding. As presented above, Belgium's ports are eager to find new clients to increase transit volumes, invest in terminals and partners to develop new projects. All recent container terminal developments are managed by foreign companies.
Civil infrastructure projects such as road and rail constructions will probably be executed by national companies because of the important government support with taxpayer money, but the scope of subcontracted work and procurement goods will present opportunities for any firm regardless of origin.

For U.S. products, manufacturers should get the required certifications regarding safe operation, means of disposal, and have REACH-compliancy where applicable. More information on this can be requested at the Commercial Service of the US Mission to the EU (http://useu.usmission.gov/).

In almost all cases, local representation is very useful. The Belgian industry works through personal acquaintances and trust established through successive fruitful transactions evolving into win-win relations. For general consumer goods, local representation is required to develop the sales network and ensure after-sales service. For certain products, having business agreements with accredited installation contractors is also highly recommended.

Opportunities and Best Prospects

Amidst high competition with other European ports, the port authorities in Belgium are actively chasing customers that will either ship their goods through Belgian ports or establish themselves there, so interesting benefits can be negotiated. As noted in this report, some cities (Antwerp and Liege) are seeking partners right now for various logistical and infrastructure projects. The city of Antwerp, the port authority and the Antwerp Chamber of Commerce further want to develop the city center's prime areas with high-level real estate with the aim of attracting the (European) Headquarters of international firms. For many companies, Belgium is a good place from where to enter and develop the European market, thanks to its geographic location, links to the continent's infrastructure and certain fiscal measures such as non-taxation of notional interest.

Opportunities abound for companies in manufacturing, storage or transshipment activities and for those that need warehouse areas, terminal facilities, or industrial land. Sales opportunities can be found in the many large civil works projects leading to commercial leads in railway network infrastructure equipment and services (network management software, consulting), pipeline networks and services (management software, inspection & testing, consulting etc.).

Environmental concerns will increasingly be an issue for port areas in Belgium, so pollution remedial installations and products, whether placed onboard vessels (retrofit), on quays or within industrial complexes as power plants and chemical installations may cave into local demand. Targeted air emissions are especially NOx, SOx, CO and CO^2, fumes and dust particles. Prospective technologies are the ones improving internal combustion of engines, filtering of post-combustion exhausts (eg. SCR filters), fuel treatments such as adding water emulsions (DWI) etc. Broader product ranges should also be considered, such as shore-based electricity (cold ironing), where U.S. manufacturers may have a comparative advantage as ships' electrical systems generally operate at 60Hz, which is the U.S. standard (50Hz in Europe), or low-sulfur fuels. Water decontamination, for either local industries, sewage or from ships' ballast tanks also present opportunities for newly proven technologies.

On the security front, ports may continue to purchase surveying and detection equipment. In Antwerp, 40% of all containers cannot be checked because they are transferred from one ship to another, so there is a possibility that

so called “barge terminals” will be developed to ensure these containers are processed through security equipment similar to that already in use for the Megaports project.

Belgium hosts some large ship operators that may manage the maintenance and repairs of their ships themselves, leading to opportunities for specific services and products such as paints, anti-fouling and corrosion protection measures.

Finally, the two Belgian dredging contractors are among the four largest in the world, these are companies have a constant requirement for deck machinery, pumps, generators, engine servicing etc.

More broadly, the following sectors are highlighted as the ones in which most investments were made, per port (2006):
Antwerp: shipping, chemical, energy and marine services sectors.
Ghent: metals, automobile, energy (bio-ethanol and biodiesel production facilities) and chemical industries.
Zeebrugge: metals, chemical, energy (biomass), marine services, fishing and logistics industries.

In view of the particular concentration of investments and opportunities in port areas, the U.S. Commercial Service offices in Belgium, Germany and Italy are organizing a trade mission in May 2009 that will focus on port infrastructure (terminals, transport networks, construction etc.), logistics (warehousing and other services), port security and environmental technologies. U.S. companies will be shown the ports of Hamburg, Antwerp and Genoa where they can meet local stakeholders such as port authorities and business contacts during informal venues, as well as commercial prospects during matchmaking sessions to maximize the opportunities for concrete business deals. If you are interested in attending this mission, please visit http://www.buyusa.gov/europe/team_events.html#_section3 or contact Commercial Specialist Thomas Happel (contact details at the end of this report).

Trade Shows

The Belgian ports are areas where many different industries are concentrated, each with their own trade shows. Here is a selection of shows relating specifically to the marine industry.

Stockexpo – the Storage Terminal Operators Conferences & Exhibitions. 24-25-26 March 2009, Rotterdam, the Netherlands. Yearly event for companies that are associated with the oil, chemical and gas tank storage terminal industries. http://www.stocexpo.com/home.shtml

Solids Antwerpen, every two years in Antwerp. Next event 24 & 25 March 2009. Focuses on the handling, storage and processing of bulk solids. www.easyfairs.com/SOLIDS-BE (click on English pages)

Shipbuilding, Machinery & Marine Technology International Trade Fair (SMM), every two years in Hamburg, Germany: www.hamburg-messe.de/smm/smm_en/start_main.php

Breakbulk Europe, yearly event in different ports, in May. Focuses on breakbulk goods transport and logistics. Next location and date are not yet known. Link to the previous event in Antwerp in May 2008: http://www.joc.com/conferences/bb_euro/

Infratech Belgium, yearly event in Ghent, in February. Focused on the civil construction sector including waterworks, road construction and other civil works. Next date are not yet known. Link to the previous event in February 2008: www.infratechbelgium.be

Various events organized by the European Dredging Association specifically for the dredging industry: http://www.european-dredging.info/ev.html

Useful Links

Flanders Social and Economic Council (SERV): http://www.serv.be (English version available)
Flanders Port Area: http://www.flandersportarea.be/ (in English)
Port of Antwerp: www.portofantwerp.com (English)
Port of Ghent: http://www.portofghent.be/ (English)
Port of Zeebrugge: http://www.zeebruggeport.be/ (English)
Port of Oostend: http://www.portofoostende.be/info/ (English version available)
Port of Liege: http://www.portdeliege.be/ (English version available)
Port of Brussels: http://www.havenvanbrussel.irisnet.be/code/en/index.htm (English)
Ghent Bio Valley: www.gbev.be (in English)
Alfaport, private sector association of the port of Antwerp: http://www.alfaportantwerpen.be/documents/home.xml (Dutch only)
VEGHO, private sector association of the port of Ghent: http://www.portofgent.be/pages/english_presentation.html (English)
Oostende Havengemeenschap, private sector association of the port of Ostend: http://www.ohg.be/ (Dutch only)
APZI (Association Port of Zeebrugge Interests), private sector association of the port of Zeebrugge: http://www.apzi.be/index_en.phtml (English version available)

For More Information

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