1.0 Executive Summary

Like the rest of the world's economy, the chemical industry has experienced intense volatility over the past few years. However, this has been accompanied by substantial secular change, which has in turn had an enormous effect on the logistics structures supporting the sector.

The growth of chemical production in China is probably the largest of these developments; however the expansion of production in the Middle East is also of significant importance. These trends have led to the chemical logistics sector becoming a more inter-continental and global market.

The performance of the industry in China has been remarkable. Until recently, China had only a basic chemical production capacity, with much of its requirements met by imports. Over the past five years however, the sector has invested hugely in Shanghai and the Yangtze valley, and to a lesser extent Bohai Bay and the Pearl River Delta. This has created an extensive logistics infrastructure in these regions as well as 'plugging-in' China to a network of intercontinental logistics flows.

China has a distinct logistics architecture. Much of its bulk chemicals and up-stream facilities are located on the Yangtze River, with its largest single location at the river's mouth at the Port of Shanghai. Consequently, China relies more heavily upon river transport than Europe or North America for its transportation. Much of the investment has been led by Western and global manufacturers who have located in 'Chemical Industry Parks' sponsored by local and national government. This has had the effect of concentrating logistics services of a certain type, such as bulk storage and river terminals, into large centralised facilities.

China retains an appetite for chemical imports and this is having an effect on the key trades such as tank containers. This market has grown from being a regional trade between the UK and the European continent into being a key aspect of global chemical logistics. The tank container operators are evolving from being regional to global providers and this is resulting in considerable restructuring as well as potential mergers and acquisitions.

Bulk storage terminals have already passed this point, although the resulting structure of the business has been quite different. The result has been the establishment of a clear leader, Royal Vopak. The company is unique in having a global presence in chemical terminals around the world; including a growing presence in China.

Much of the rest of the sector remains regional. Road, rail and barge transport is characterised by smaller and medium sized providers. A few providers based in North

America, Germany and the Netherlands are establishing a presence in other continents, such as the Middle East; however few, if any, can describe themselves as global.

The changing structure of the chemical sector makes guessing its future prospects even more difficult. Huge growth in China, South East Asia and the Middle East has contrasted with minimal growth in Europe and North America. However, it is far from certain that this trend will be representative of future growth, even in the immediate future, with the strong possibility of over-capacity in many markets. However, as far as the logistics sector is concerned the opportunity will continue to exist to participate in the building of a global infrastructure.

For example, in some sectors the local-for-local production model is of less importance, with large surplus production being imported from the Middle-East. Accommodating the potential of such product flows is a significant opportunity for some logistics providers.

Another area of considerable opportunity is the emergence of ‘non conventional’ sources of hydro-carbons. Oil-shale and shale-gas has transformed the energy economics of North America and is likely to have a similar effect in Europe. This may well have major implications for the sector in these regions. Similarly, the discovery of oil resources in Brazil and the continuing size of Russian hydro-carbon resources may lead to the creation of new chemical production and thus the need for new chemical logistics provision.

Chemical logistics is generally a niche market. Although certain areas of down-stream customer-facing logistics requirements are more open to general road based logistics provision, most areas of the sector are not. The handling demands of hazardous cargo (which are ever more onerous) present considerable barriers to entry, as does the economies of scale of marine-based logistics systems. Consequently, chemical logistics is probably less competitive in many areas and thus more profitable. However, this does not mean that Logistics Service Providers (LSPs) in this sector can afford to be complacent. Many are in danger of failing to adapt to the increased globalised nature of the industry and are struggling to gain access to the fastest growing and most profitable areas of inter-continental trade.