

# Clusters keep Europe competitive

The chemical industry may be focused on Asia. But it should not ignore Europe, which now has a network of highly integrated sites, as well as great growth prospects

## Industry insider

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EUROPE HAS been the world's leading chemical manufacturing and exporting region for well over 100 years, and today this is still the case.

However, for more than 10 years now, the center of gravity of the global chemical industry has been shifting eastward, as double-digit growth areas such as the Middle East, China, India and other Asian countries have become the preferred focus of attention of investors.

The huge volumes of new production capacity that have been brought on stream or are under construction in these regions are making a significant dent in the dominant position that Europe has so far enjoyed.

Although there have been few new world-scale grassroots chemical plants built in Europe during this period, that is not to say that investment has not been taking place. As befits a mature chemical-

producing region like Europe, there is substantial ongoing investment in expanding and debottlenecking existing plants, and modernizing operations.

In fact, Europe has been steadily consolidating and strengthening its manufacturing base to ensure that it is well positioned to meet the competitive challenges of an increasingly volatile global chemical market. Europe may appear to be less interesting or less of a priority at present for grassroots investment, but the stark reality is that its value proposition remains as strong as ever. From a competitiveness viewpoint, the region is disadvantaged only by a lack of indigenous hydrocarbon resources. That aside, Europe can offer the chemical investor a unique set of benefits that, in combination, more than offset any feedstock disadvantage and provide a solid and low-risk business environment for successful chemical operations. Specific benefits that Europe brings to the table include:

- A market of more than 500m discerning consumers
- An annual chemical demand growth,

which in volume terms still exceeds that of Asia

- A long tradition of cutting-edge technological innovation in chemical manufacturing
- A world-class logistical infrastructure for handling and moving chemicals
- A highly productive, skilled labor force
- High-quality technical education programs
- A best-in-class operational safety record
- A strategic location allowing easy access to both local and global markets
- Environmental compliance viewed as a business opportunity rather than a threat
- Political and social stability

## EUROPE IS NO. 1 IN CLUSTERS

One particular feature that sets Europe apart from other regions is its high degree of operational integration due to the fact that chemical production is predominantly organized in clusters.

With the changing world order in chemicals, Europe is recognizing the need to develop smarter operations, not just in manufacturing, but along the whole value chain.

Its present-day chemical industry is proving that clusters offer tremendous opportunities for extracting benefits and synergies throughout the value chain. Today, Europe leads the field in applying the cluster concept and sees clusters as a valuable tool for maintaining and further strengthening the region's competitiveness.

The role of clusters and the advantages that can be gained from operating within a cluster were highlighted in a presentation given recently by the European Chemical Site Promotion Platform (ECSP) to the European Commission's High Level Group study project on the competitiveness of the European chemical industry.

The ECSP has identified a number of key attributes that can be used to define a viable chemical industry cluster:

- **Worldscale production of feedstocks, base chemicals, plastics/polymers, intermediates/specialties or performance materials**

- **Upstream integration into primary raw materials, feedstocks, commodities or intermediates**

- **Downstream integration into other chemical industry sectors or into key customer industries, such as automotive or construction.**

- **Synergy with energy, utility, infrastructure and service providers**

- **Access to at least three of the major transport modalities (maritime, inland waterways, pipelines, rail and road)**

- **A significant employer and contributor to local job creation**

Applying these attributes, and using its own knowledge and research base, the ECSP has identified some 35 chemical clusters in Europe that today account for the lion's share of Europe's current chemical production.

These clusters differ widely in terms of size, geographic location, leadership and so on. For example, because they provide port facilities, coastal clusters tend to be large and highly diversified. Inland clusters may be smaller and more specialized, depending on where they are located and the markets they are intended to serve.

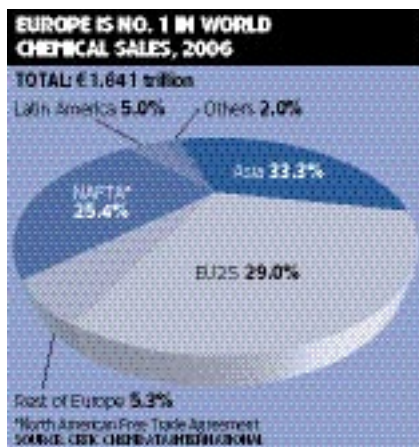
## ADVANTAGES OF CLUSTERS

Recent European experience and practice show that clusters have an important role to play in a number of key operational areas:

### ■ **Organization of production operations**

Clusters make it possible for companies to pursue operational integration with other cluster members, to develop manufacturing synergies and to make use of outsourcing possibilities for noncore activities. This enables fast and low-cost investment.

Moreover, clusters tend to generate a more favorable local investment climate, since more co-siting opportunities are available. In many cases, clusters can count on a more prominent role and active support from local authorities. While some companies in the cluster may be



direct competitors, a collaboration mindset can be developed between cluster members that will work to collective advantage (not simply "what's in it for me?" but also "what's in it for all of us?")

### ■ **Raw materials and feedstock supply**

Clusters offer advantageous conditions for companies to source raw materials and feedstocks, and to sell by-products to site companies as raw materials. Generally speaking, alternative supply sources are available that lead to more competitive pricing and help to guarantee continuity by providing backup supply at times of need. Opportunities for upstream integration can be developed such as over-the-fence delivery or dedicated pipelines, while more flexibility in storage and delivery patterns can also be achieved.

### ■ **Energy, utilities and services**

Many clusters have more than one supplier of energy, utilities and other site services, which means that cluster members have a choice of provider for these important cost components.

Frequently, service and utility providers are keen to work closely with chemical companies in the cluster to develop tailor-made supply solutions to mutual benefit, permitting efficient and rapid integration into the cluster at low cost. Other advantages include sharing supply and distribution infrastructure and pooling purchasing arrangements.

### ■ **Logistical infrastructure**

Clusters provide optimal transport and storage amenities for chemical producers, giving maximum flexibility and service. Most clusters are directly linked to the main inland transport modalities like road, rail, waterways and pipelines. Coastal clusters additionally provide direct access to ocean and coastal shipping routes.

The availability of third-party storage and

handling facilities can lead to beneficial outsourcing arrangements and improved supply flexibility. In addition, a number of different logistical service providers will normally be active in a cluster, giving producers a choice of provider and the opportunity to negotiate more competitive rates.

### ■ **Labor and maintenance**

There is normally a permanent pool of both skilled and unskilled labour within a cluster that producers can tap into as and when needed. Another benefit is that maintenance stops and plant turnarounds can be planned efficiently to synchronize with stops of suppliers and service providers, and also to avoid possible timing conflicts with other cluster members that could lead to temporary shortages of casual maintenance labour.

### ■ **Health, safety and environment**

By sharing knowledge and experiences in the field of health, safety and environment (HSE), cluster members can contribute to maintaining and improving overall HSE standards in the cluster. Safety activities such as emergency response, firefighting and crisis management can be organized on a communal basis instead of each company having its own contingency plan, and this can lead to more effective procedures at reduced overall cost.

## CLUSTERS ARE THE WAVE OF THE FUTURE

It is evident that in recent years, the European chemical industry has actively embraced the cluster philosophy and is increasingly benefiting from the many opportunities cluster operations offer for extracting maximum advantage out of the whole value chain.

The process is an ongoing one – a work in progress – but there is now a firm acknowledgement among the major European chemical players that clusters provide an ideal operating environment, making a direct positive contribution to bottom line performance and competitiveness.

So, while their perception may be otherwise, that's a message that chemical investors would be ill-advised to ignore. ■



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