Next-Generation Economic Clusters

By creating ripe environments for business, academia, and innovation, these emerging economic clusters have jump-started industries and accelerated economic development in mature and developing markets worldwide.
Globally, economic clusters (EC) are abundant in a variety of forms: special economic zone, industrial zone, free zone, economic city, and technology cluster. Yet, too many ECs have started without a clear strategy to meet their economic development objectives.

In many cases, world-class infrastructure and business and industrial facilities have been built and tenants have filled the space to different degrees, taking advantage of favorable business conditions and local market demand. However, to become true incubators of economic development many ECs must clearly define their playing field and truly differentiate themselves. Key considerations include:

• **Focus on sectors and parts of the value chain aligned with the long-term local or regional economic development agenda.** Beyond defining the sectors of focus, the efforts should be concentrated in parts of the value chain of the sector where the country or region has built, or can build, a competitive advantage and sustain it in the foreseeable future.

• **Orchestrate the right ecosystem to enable sector and value chain growth.** Clusters should provide or facilitate the necessary cluster “enablers,” secure government endorsements, and instill the right governance with a business model that manages an economic development mandate and commercial sustainability objectives.

• **Create a sustainable link to the host country economy.** This ensures that the benefits of the EC permeate beyond the boundaries of the EC, that local talent and technology is developed, and that local small and medium-sized enterprises (SMEs) and startups are promoted. After all, an incubator would not be viable without direct correlation with overall GDP growth and sustainability of the competitiveness it creates.

Figure 1
**Six ecosystem enablers facilitate access to local, regional, and global markets**

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Note: SMEs are small and medium-sized enterprises.
Source: A.T. Kearney analysis
For the incubator to flourish, it must function as an ecosystem, bringing together and balancing various enablers to access a market. These enablers include a focused strategy, sound facilities and infrastructure, favorable regulations and ease of doing business, talent and technology development, access to capital and financing, and promotion of SMEs and entrepreneurs (see figure 1 on page 2).

In mature markets, these enablers are provided by numerous stakeholders, both public and private. In developing markets, where these enablers are absent to different degrees, the EC serves as a "one-stop shop," filling the void by providing some or all of the missing enablers for companies and investors. Most successful ECs consistently deliver superior performance across all ecosystem enablers.

Examples of successful ECs can be found across industry sectors and geographic regions. These include aerospace in Brazil's Embraer Cluster, biomedical applications in Singapore's Biopolis, shared services in Ireland's Shannon Free Zone, information and communication technology (ICT) in Egypt's Smart Village, and petrochemicals and steel products at the Jubail and Yanbu Industrial Cities. ECs also play a role in developed economies. In the United States, for example, Michigan's Economic Development Corporation helped transform the automotive industry in the state by developing high-tech and clean-tech emerging skills and capabilities.

EC Supply and Demand Imbalances and Challenges

Many ECs exist in the developed world—Germany alone has more than 190. The booming economy prior to the 2008–2009 financial crisis led to an increase in ECs, particularly in the CHIMEA region (China, India, Middle East, and Africa). Indeed, the CHIMEA region has more than 300 ECs, with more than 100 in China, 100 in India, another 85 in the Gulf Cooperation Council (GCC) countries and the Levant by 2015, and more than 50 free zones in Africa.

Post crisis, ECs have had mixed success, because owners—and to some degree operators—have often failed to use the right planning horizon for achieving economic development and commercial returns.

The path and time horizon for achieving both economic development and business goals is not clearly laid out in many ECs’ operating models (see figure 2 on page 4). Several ECs have completed their infrastructure development and are seeking tenants, but they are still unable to claim a true impact on economic development. One reason for this situation is the competing priorities of economic development and profitability. Real estate is profit-driven and akin to the private sector, while economic development is measured by GDP, FDI, and employment, and akin to the government’s role. In a best-practice model, real estate is best left to real estate developers, under a clear mandate, with services and quality often regulated.

The separation between real estate development and economic development is a requirement. Regardless of the model, a clear path and investment horizon with reasonable return expectations is necessary.

Notable examples of this separation are Aerospace Valley in France and the Michigan Economic Development Corporation in the United States. Both orchestrate programs to promote investment in explicit industry clusters and provide platforms for investors to access their markets, but are not owners and operators of infrastructure or facilities.
On the other hand, the limited availability (or flow) of investment following the global economic crisis is making it more difficult for ECs to reach their potential and end goal. Indeed, the rising number of ECs worldwide has increased competition for a pool of foreign investment, which has shrunk due to post-crisis risk aversion (see figure 3).

Foreign and domestic investment is the principal engine to make ECs commercially viable and to develop the necessary capabilities within the sector in the form of human capital, technology development or transfer, and efficient use of natural resources.

**Figure 2**

*The most successful ECs have clear paths for gradual achievement of both economic and financial goals*

1. Directly conflicting objectives of economic development versus profitability prevent achieving the desired targets quickly.
2. After maximizing business benefits, the focus to meet economic objectives can be increased (typically the case with private companies).
3. After maximizing economic benefits, actions to maximize the business benefit can be increased (typically the case with publicly owned companies).

**Figure 3**

*Global foreign direct investment: slow recovery, but unknown future*

Sources: United Nations Conference on Trade and Development; A.T. Kearney analysis
In the midterm, we expect a renewed flow of global investments. There is a positive bias for future foreign direct investment (FDI) in the minds of executives, according to A.T. Kearney studies. Countries must prepare to capitalize on future growth and define how to structure and leverage ECs to achieve their economic development aspirations.

**Economic Cluster Qualifiers and Differentiators**

A.T. Kearney studied and worked with ECs globally to form a perspective on the qualifying and differentiating elements that make ECs sustainable.

Our research identified the qualifying ecosystem enablers, which allow an EC to enter the field of competition, and differentiating ecosystem enablers, which allow ECs to create a truly unique value proposition and flourish. Next-generation economic clusters (NECs) are the select group of economic clusters that can claim differentiation by outperforming in all enablers.

Top-quartile NECs score highest across qualifying and differentiating enablers, while lower-quartile zones only perform well in qualifying enablers, showing consistent limitations. Figure 4 illustrates the performance of the ECs in our study across the six ecosystem enablers.

The findings reveal significant distance between the leaders and the laggards with regard to four enablers: focused strategy, access to capital and financing, development of talent and technology, and promotion of SMEs and entrepreneurship.

**Qualifying Ecosystem Enablers**

Two ecosystem enablers are must-haves for any economic cluster.

**Facilities and infrastructure.** Access to airports, ports, road networks and, in some cases, railroads, is the minimum common denominator of ECs. Likewise, it is a must to offer pre-built
or built-to-suit investment-grade real estate. Many ECs around the world have mastered this enabler. In A.T. Kearney’s analysis, second-, third-, and fourth-quartile ECs score high in this area. This indicates that few can stand out because of their real estate offerings and access to transport, telecom, or social infrastructure alone. However, some differentiation can come from the breadth and depth of the social infrastructure provided in the cluster. Particularly in developed markets, offering differentiated children’s day care, clinics, banks, and other basic necessity outfits will influence the decision of a company to relocate to a specific cluster.

**Favorable regulations and ease of doing business.** Access to local markets, ease of doing business, tax breaks, and ease of employee mobility are standard offerings sought by international...
and global companies seeking to set up operations. As a result, one-stop shops are an industry standard and are hardly a differentiator. Self-regulation of free zones that offer tax breaks or allow foreign ownership in countries that otherwise do not allow it is a differentiator only in select cases. In Abu Dhabi, for example, where free zones that allow foreign ownership are only nascent, this status is currently a differentiator. However, as soon as it becomes the norm, or when the country allows more foreign ownership, this advantage becomes an industry standard. Clusters that score highest in this area are those that allow a combination of foreign ownership, enforce intellectual property protection laws and contracts, instill clear rules to access and operate in the local market, and have clear employment regulations in place that are favorable to ECs’ citizens.

**Case in point:** The Dubai International Financial Center (DIFC) created specialized laws, regulations, and enforcement mechanisms to forge an atmosphere of trust. This increases the inflow of foreign direct investments and caters to financial services firms. The DIFC even established a court system based on international best practices to increase the confidence of international firms to invest in the cluster.

**Differentiating Ecosystem Enablers**

Beyond the must-have enablers, the following four enablers will go a long way to differentiate the leading ECs.

**Focused sector strategy.** A focused strategy is not only necessary to define the key business sectors but also to identify their respective value chain focus areas and development phases. Development phases are crucial as there are various prerequisites needed to convince industry leaders that an emerging location is adequate to house their local or regional operations. Furthermore, a focused strategy with development phases forces EC operators to collaborate regionally and globally, rather than just locally. Figure 5 on page 8 illustrates the typical development cycle for a manufacturing cluster. The prerequisites shown in the figure have been compiled from interviews with executives across the aerospace, automotive, electrical equipment, software, and IT hardware industries. The conclusion is that a value chain is generally built in a certain order, frequently starting with sales, moving on to post-sales services, and eventually to R&D and innovation (see figure 6 on page 9).

For example, the Bahrain Logistics Zone, a boutique light manufacturing and logistics zone in the Gulf, developed a strategy around its location, the market demand it can help its partners access, and the available capacity of its new port. It began with a focus on explicit value-added logistics activities, with more ambitious plans for the future. Today, the zone is ranked number nine globally in the Global Free Zones of the Future 2010–2011, published by *fDi Magazine* (see sidebar: The Potential for Saudi Arabia on page 6).

**Access to capital and financing.** An EC can significantly differentiate its offerings and improve its attractiveness (and in turn improve its ability to achieve economic development goals) by providing access for its citizens to both capital and debt financing—access that otherwise would not be possible. Successful ECs facilitate and bring together various financing options, suitable for companies in different stages of maturity, from startups to multinationals. The various financing options include:

- **Co-investments.** Provide seed funds with public or private funds for co-investments in (a) major facilities or shared facilities, such as testing labs or co-manufacturing facilities,
and (b) taking equity stakes in select companies of the EC. It is important to note that the role of “patient” capital from dedicated pools mostly funded by the government is intrinsic to the success of greenfield EC projects. In a time of cautious investing, government support becomes even more important. Government funding can be conditional on certain economic development goals, such as employment of nationals, development of technology, skill transfer programs, or R&D co-financing. Conditional mechanisms can be particularly useful in zero- or low-tax environments to support the EC’s economic development goals, substituting the classic tax incentives used in other countries.

- **Private capital.** Provide private capital through the creation of partnerships with various groups, including angel investors, venture capitalists, and private-equity funds dedicated to the industry sector, to cater to the various types of companies being promoted in the cluster.

- **Public and private debt programs.** Facilitate public and private debt programs through synergistic relationships with specialized private debt providers to benefit all parties involved. Specific debt programs, such as export promotion financing, SME growth financing, and others will help attract investment into the EC.

All of these financial stakeholders have an interest in the EC because it brings together viable businesses in one location, and the stakeholders benefit from the “pre-screening” the EC does before accepting the tenants in the first place. Finally, EC public seed funds can serve as underwriting for private financing programs, opening the gates to financing that otherwise would not be available.

**Talent and technology development.** Access to diverse, adequately skilled, and competitively priced pools of technicians, engineers, managers, and support staff is vital for any executive making an investment decision. The study reveals significant opportunities for ECs to differentiate

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**Figure 5**

**Economic clusters excel in the differentiating enablers**

[Diagram showing differentiating and qualifying enablers with scores for each category such as Promotion of SMEs and entrepreneurship, Development of talent and technology, Access to capital and financing, Focused sector strategy, Robust facilities and infrastructure, Favorable regulations and ease of doing business, with 4th quartile, 3rd quartile, 2nd quartile, and 1st quartile ratings.

Note: SMEs are small and medium-sized enterprises.
Source: A.T. Kearney analysis

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by focusing on improving their human capital. Indeed, developing a sector should go hand-in-hand with developing talent. ECs are in a unique position to create programs that bring together government efforts, academia, and industry to increase the pool of qualified and readily employable professionals and technicians.

Each sector has its unique requirements, but generally a mix of programs is necessary to train technicians, engineers, and project managers. Egypt’s Smart City in the outskirts of Cairo offers an array of such programs to increase both the size and the skills of the talent pool. Furthermore, clusters that effectively build talent in their regions also focus on developing soft skills, such as project management and people management. Although the needed skills will vary by region, the need to bridge the skills gap in a particular location is urgent across most locations. As a result, countries often need comprehensive plans to address their skills gaps in the short, medium, and long term. In Figure 7 on page 10, note how investments are directed not only at making current knowledge workers employable today, but also at strengthening the skills base of the country in the future by addressing the K-12 population.

Hand-in-hand with talent development is technology development. For technology development to take place three areas need to be promoted in the economic cluster: scientific research, research & development, and commercialization. ECs that differentiate in the area of technology development typically have a program where they implement a portfolio of activities covering these three areas. Programs funded within clusters have been successful in not only developing new patents, but also commercializing them successfully.

**Promotion of SMEs and entrepreneurship.** This is the principal differentiator for ECs. Clusters start to flourish only when SMEs are succeeding. Facilitating the creation and supporting the growth of SMEs, therefore, is not only a platform for ECs to meet their economic development
objectives, but also to catalyze innovation, connect the cluster to the national economy, and provide a robust, sustainable base that creates employment and increases GDP four and six times faster, respectively, than the rate of large corporations.

In addition, in many industries, anchor tenants are concerned about the availability of high-quality local suppliers for their businesses. In many cases, the respective supply chains require various levels of capabilities, which are often provided by a mix of lower-tier international companies and local SMEs.

There are many ways to integrate entrepreneurship and SMEs into the fabric of the cluster, including angel investor programs and dedicated SME financing programs, service offerings tailored for them, and business development support. Take, for example, the grassroots angel investor networks that the government of Ontario, Canada, is promoting under the auspices of the Ministry of Research and Innovation. The objective is to close a “pre-commercialization” capital availability gap—estimated at $5 billion by Sustainable Development Technology Canada—by developing angel investment networks in each of the province’s technology clusters, and by providing knowledge, standardized procedures, and resources to invest wisely into the various clusters’ high-potential companies.

Pan to the Arabian Gulf, where RAKFZ, the free zone of the Emirate of Ras Al Khaimah, has successfully attracted nearly 7,000 companies since its formation in 2000. RAKFZ prides itself on being the perfect place for SMEs to prosper—and rightfully so, as 70 percent of its clients are SMEs and entrepreneurs, many of them consisting of one or two employees. This EC has found a unique niche in the free zone market of the UAE, capitalizing on it by providing tailor-made licensing, real estate packages, and business services that fit the budgets and needs of SMEs.

**Figure 7**

**Example of a skill development program (ICT skills) catering to immediate and long-term needs of the cluster**

<table>
<thead>
<tr>
<th>Short-term impact (0 to 2 years)</th>
<th>Medium-term impact (2 to 5 years)</th>
<th>Long-term impact (&gt;5 years)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Develop experienced hires</td>
<td>Offer courses to convert non-IT project managers from other fields</td>
<td>Attract specialized training firms</td>
</tr>
<tr>
<td>Improve quality of fresh graduates</td>
<td>Increase corporate input to universities</td>
<td>Encourage foreign universities to establish in country</td>
</tr>
<tr>
<td>Increase quantity of fresh graduates</td>
<td>Support corporate-based academies and certification programs</td>
<td>Attract and retain top professors</td>
</tr>
<tr>
<td></td>
<td>Promote technical diploma training institutes</td>
<td>Strengthen and reform K-12 education</td>
</tr>
<tr>
<td></td>
<td>Sponsor study programs</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Increase enrollment at existing universities</td>
<td></td>
</tr>
</tbody>
</table>

Source: A.T. Kearney analysis
No doubt, much work is still to be done in clusters spanning from Ontario to Hsinchu to promote and capitalize on the power of entrepreneurship and SMEs in regional economies. ECs can play a leading role in accomplishing this work.

Next-Generation Economic Clusters

Since the recession of 2008–2009, the game has changed for greenfield and established economic clusters around the world. Investments have become more difficult to attract, margins have compressed, and international scrutiny has increased, while demand on ECs to create sustainable employment and economic prosperity has peaked.

Successful next-generation economic clusters will not only provide world-class infrastructure and real estate, one-stop shops, and incentives that attract businesses in the short term, but also truly differentiate themselves. They will focus on strategies for a choice sector and its value chain, driven by industry veterans who are experts in their fields; facilitate access to capital and financing for their citizens; partner with them to develop the talent and technology that will drive their competitiveness; and relentlessly incubate startups and promote the SME base.

True NECs are not a temporary fix or a fashion. They are true catalysts of economic prosperity, and they are here to stay.

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