



# Clusters 2.0: The Local Reality of Globalization

James Gollub, Senior Vice President, ICF Consulting

## Global Competition and Economic Development

Global competition is growing and will continue to increase. U.S. states and regions are right to worry about how they will generate the quality jobs needed to achieve high performing economies. In today's global economy, every metropolitan region and community in the U.S. must compete to earn their living with both their neighboring regions as well as with those beyond our borders. The good news is that America's regions and communities have long had advantages that enabled effective competition. The reality is that in a global marketplace, these advantages must constantly be changed and improved. This competitiveness challenge has historically been laid at the feet of American companies, but today the lessons from overseas tell us that this same need for innovation and adaptation to markets confronts the entire community. Economic development in tomorrow's global marketplace is everybody's job—from the education and workforce training system to universities and laboratories; from permit and regulatory agencies to banks and investors; and from power and environmental agencies to telecommunications companies.

A fresh and more systematic alignment of the entire continuum of economic input "suppliers"—whether public *or* private—with the constantly changing needs of every region or community's portfolio of industries is the hallmark of a high performing economy. We have learned much about how to understand the economy, but America's communities are still overly dependent on programmatic approaches to making improvements, and this often holds back the changes needed for a region or community to compete. To compete in tomorrow's competitive environment, every community needs to expand beyond traditional economic development that focuses on specific programs for enterprise formation, business retention, or industry attraction to what might be called "Clusters 2.0"—a continuous engagement of all economic stakeholders in a process of learning and innovating how they deliver their services. While ideally the logic of using clusters calls for a new and more integrated approach to economic development, many regions and communities are essentially using the same techniques, only with new labels.

**James Gollub** is Senior Vice President of the ICF Consulting Global Economic Development Practice (GEDP). ICF serves international, national, and domestic governments; business; and institutional clients in achieving sustainable prosperity. Gollub's group are "economic therapists" who carry out bottom-up, market-driven, collaborative strategies for innovation and competitiveness from Bangalore to British Columbia. For further information please visit: [www.icfconsulting.com](http://www.icfconsulting.com) (see *Economic Development*) or contact: [jgollub@icfconsulting.com](mailto:jgollub@icfconsulting.com).

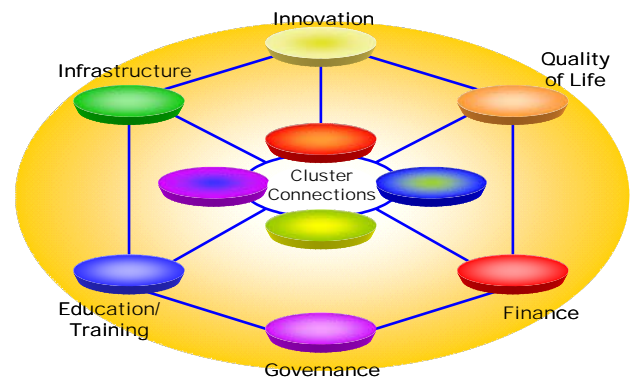
## New Rules: Everybody Is an Economic "Supplier"

To build and sustain the jobs that employ their citizens, American states and regions need to view themselves as key "suppliers" in the global economy. Every agency and institution, public or private, needs to become a learning organization, ready to adapt their "product" to market demand—in fact, anticipating market needs as much as possible rather than reacting. This means that:

- Every school, training agency, college, and university must be thinking about whether they are preparing the skills that rapidly changing industries require.
- Universities and laboratories are able to discover, develop, and deploy technologies that producers in each cluster need to innovate.
- Financial institutions understand and can serve the distinctive capital requirements of each cluster.
- Transportation and logistics, as well as power, water, and environmental services, are able to respond to the timing, quality, quantity, and pricing realities of key industries.
- Governmental agencies have a customer-focused total quality approach to working with their economy's different clusters—whether permitting, regulation, or taxation.

The key to the formation, expansion, and attraction of industries that create jobs in America's states and regions is for *every* organization, agency, and institution to recognize that their decisions and investments are, like those of private industry, competing in the global marketplace and must understand and anticipate customer needs. The compartmentalization of services—such as workforce training, innovation, finance, and infrastructure—and isolation of participants that has characterized traditional economic development *will not* sustain America's economy in the times to come.

## The Actions of Every Public and Private Organization Shape Regional Competitiveness



## Clusters 1.0: A Good Start—But Not Deep Enough

Industry clusters have become a popular focus for economic development in the past decade. Clusters, however, have *always* existed—they simply were not well understood by economic development officials and the rest of the community.<sup>1</sup> Clusters are a lens for understanding how and why economic activities tend to aggregate within geographic regions. They consist of groups of businesses that serve export markets (including markets outside the region in which they are located); they tend to use similar or complementary types of skills, innovation, finance, infrastructure, and even quality of life (key to many creativity and innovation-driven industries). Clusters also include local suppliers who have grown by knowing the needs of producers. In fact, clusters tend to concentrate in regions where there are institutions that provide advantages in important inputs, from skilled graduates to research to savvy investment. Clusters are important economic generators because they export what they make and bring new revenue into the region where they are located. While clusters may be roughly a quarter of all employment, they power the rest of the regional economy.

Clusters are important to regional economies, but in a global marketplace, competition to form and grow clusters is a constant. American regions and communities need to understand that in a global economy in the Internet age, many aspects of clusters are easily moving from nearby to faraway locations where costs may be lower, skills and technology more available. Companies are attracted to, form, and grow in clusters *because* of regional advantages that draw in more talent, innovation, investment, and revenue over time. As this occurs, regional capacity to respond to needs increases, enhancing advantages and adapting as clusters evolve over time.

Regions and communities across the globe—supported by their states, national governments, and business partners—have learned this lesson and are aggressively working to define, match and sustain their advantages to the needs of industry. The regions that we now read about in the newspapers are those at the forefront of understanding about what it takes to form and sustain a cluster. While overseas regions have only recently been getting media coverage, most of them regions have been hard at work for decades on place-based cluster-development.<sup>2</sup>

The regions we are reading about are only a few of the “newer” active regional thinkers and doers that are now fully on the global economic playing field. In established European communities, such as Neuchâtel and Grenoble, for example, investments in strategic areas through local partnerships and alliances have enabled growth of new clusters in microelectronics and micro-electromechanical systems (MEMS). Every region that has the capacity is competing for opportunity.

- Southern India's Bangalore concentration of software engineers has matured over 15 years, stimulated by U.S. firms recognizing the region's talents and by former Indian employees starting and growing their own successful firms. Moreover, both there and in other regions, companies are increasingly moving up the outsourcing value-chain from non-real time data entry and call centers to real-time technical help and engineering services.
- China's Zhongguancun High Technology Development Zone, with its high concentration of electrical engineers, has attracted engineering and design operations of a rising number of international consumer electronic companies.
- Taiwan has used an integrated approach to becoming a leader in high-technology manufacturing, particularly in semiconductors, focusing on Hsinchu Science Park, skill development, support for research, and access to capital for new ventures.
- Singapore has used workforce skills preparation, capital investment, planned technology communities, and efficient logistics infrastructure to attract operations global technology corporations.
- Korea has had an entrepreneurship boom in Teheran Valley near Seoul, the nation's industrial heartland.
- Malaysia has made a long commitment to semiconductors and electronics supply chain development in regions such as Penang, as well as fostering formation and attraction of digital enterprise in their Media Corridor.

While technology-driven regions receive the highest visibility, almost every industry that is not dependent on a specific location is now becoming global. This is not new. Globalization is as old as trade. Traditional manufacturing long ago began to move to lower-cost environments. Communities in the Southeastern states of the U.S. have painfully watched as major portions of long-standing industries, such as furniture and textiles, have grown in regions of Eastern, Southern, and Southeast Asia. At the same time, advanced manufacturing is also growing in the U.S., as the renaissance in automotive production illustrates. Moreover, new industries, such as wireless communications, consumer entertainment, and biomedicine, are continuously taking shape in the U.S. as older ones decline or transform. Nonetheless, companies—no matter what industry—will, always seek the most competitive location from which to operate their businesses—or parts of them.

In Clusters 1.0, regions awoke to the importance of fostering the powerful economic agglomerations that clusters offered. However, the solutions on which economic development strategy focused were still primarily programmatic in nature—superimposing often marginal solutions on top of the existing marketplace. In Clusters 1.0, we would see improved coordination of services, more networking by firms, sometimes a new technology program. But these are not and will not be enough. The forces at work today will make it necessary for American regions and communities to embrace change, learning quickly and adapting rapidly. There will be fewer and fewer industries in which there will not be a competitor. America's fundamental challenge is to strengthen the

<sup>1</sup> J. Gollub, “Cluster-based Economic Development: A Key to Regional Competitiveness,” EDA 1997

<sup>2</sup> J. Gollub, “Karnataka (Bangalore) Technology Economy Blueprint” (USAID, 1989); *Stanford Project on Regions of Innovations and Entrepreneurship*, inaugural issue (January 2004).

capacity of its regions and communities to create advantages for emerging and changing industries—giving them reason to cluster. In doing so, America will constantly generate new sources of economic value, not necessarily retaining economic activities that are not cost effective or advantageous. American regions and communities need to maintain this dynamism, all the while ensuring that the workforce and all regional institutions for innovation, investment, and infrastructure come along on this ongoing voyage. There is no way to maintain the status quo in any industry. This means that every region will inevitably face substantial changes in how they earn their living. The era of working a lifetime in one industry or one occupation has passed. While change might be slower in industries where markets are primarily national or regional, even there communities will find their neighbors working hard to compete, as well. Clusters 1.0 was about discovering the importance of industry agglomeration and starting to learn how to care for entire clusters, beyond traditional small business, retention, or industrial recruitment programs. That was only a start.

## Next Stage: Clusters 2.0

Cluster logic has only just started to become understood and adopted by economic development practitioners. The emphasis to date has been on describing clusters and benchmarking their performance across regions. The first generation of cluster initiatives focused on the challenge of analyzing and discovering what a region or community's clusters were. In order for regions and communities to build and energize cluster economies in the global marketplace, a next step in more integrated cluster thinking is required—"Clusters 2.0," so to speak. Very few states and regions have advanced beyond "Clusters 1.0" so far.

The following summarizes a few observations about sustaining cluster initiative momentum, drawn selectively from the ICF Consulting body of experience in North America and overseas.

## Mobilize: Engaging Stakeholders

**Stewards:** The first generation of cluster strategy oversight emphasized short-term advisory committees reporting to existing boards. In "Clusters 2.0," regions and communities are recognizing that serious cluster strategy requires its own form of committed leadership, not just temporary committees. For this reason, regions and communities are inviting prominent individuals who have a broad and objective perspective on the state economy to serve as "stewards" who oversee progress on overall state economic competitiveness. Stewards are important because they can lend their authority to engaging others and to getting things done.

**Cluster Co-Chairs:** Regions and communities are putting much more effort into recruiting leaders of cluster groups. They are now seeking representatives who will be able to help "bring together" each cluster and motivate them to actively participate in the collaborative decision-making that "Cluster 2.0" is really about—not simply making recommendations, but reaching agreements on changes that both companies and institutions can and should make together. "Clusters 2.0" is about changing behavior that improves cluster innovation and competitiveness, not simply about telling someone else what they should do.

**Collaborative Communications:** Today's Internet tools have had a profound influence on how regions and communities can reach out to and communicate with stakeholders from across the economy. In "Clusters 2.0," web-based communications grow throughout the strategy process and develop into a permanent infrastructure for regional dialogue, leadership exchange, cluster specific interaction, and management.

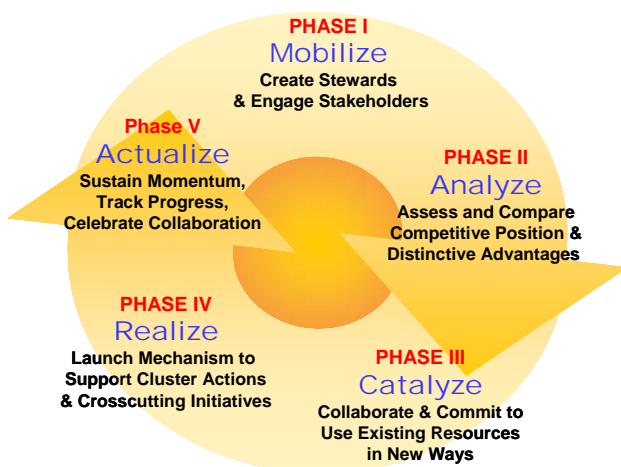
## Analyze: Thinking Competitively

The first generation of cluster analysis was highly descriptive and based on creating "vision" and what essentially amounted to wishful-thinking-based strategy. Analysis was often focused on a single cluster without any appraisal of how the overall economy was doing.

The next generation of competitiveness strategy begins by examining the entire region or community economy as if it were a "holding" company. Three distinct analytic requirements are now recognized as needed to enable community decision-making:

- **Overall Regional Performance:** The first question that every region or community needs to answer to set the strategy for competitiveness strategy is: How are we doing? This set of dependent variables sets the stage for the focus of all subsequent cluster strategy.
- **Cluster Analysis:** Individual cluster analyses need to focus far more on effectively mapping the structure of each cluster using the more recently improved NAICS codes, with more in-depth analysis of the structure of the cluster (not simply the larger producers) and more aggressive benchmarking of the position of each cluster against competing regions.

### Phases of Regional Competitiveness Strategy



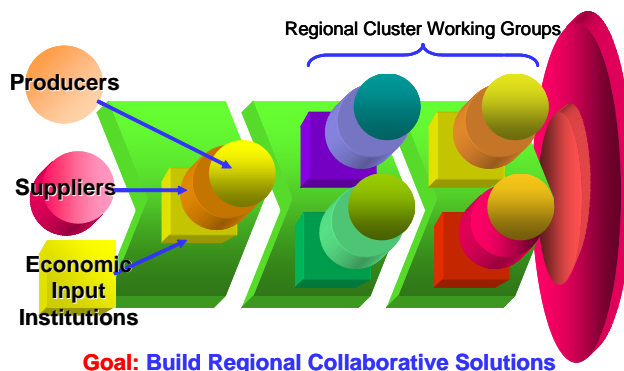
- **Economic Foundation Assessment:** Furthermore—and here is where American communities need to concentrate their attention—identification, analysis, and comparison of each major category of economic input needs to take place. By learning how well and how differently regions and communities are able to deliver advantages to each cluster, they can develop the agility required to effectively compete.

## Catalyze: Achieving Realistic Commitments to Competitiveness

Economic development grew up in an era of compartmentalized roles and functions. These services tended to focus on specific services defined by program funding, as mentioned earlier. These themes included small business, business retention, and industry recruitment. In that world, dedicated public agencies were on one side of the economic dialogue and companies on the other. The reality of “Clusters 2.0” is that *real* competitiveness is not about companies vs. government, it is about *everyone* in the regional marketplace learning and changing so that the net result is more innovative and competitive industry performance. For this to occur, two important (often subtle) differences in how competitiveness strategy takes place need to be recognized:

- **Convening the Marketplace:** The first difference from the past is that cluster groups must more realistically represent their surrounding marketplace. This means that a cluster group must be *more* than a committee of industry representatives and should include a collaborative of producers, suppliers, *and* the spectrum of public or private agencies and institutions that impact upon how each industry performs. During effective cluster strategy, participants will build on good competitive analysis and agree to work on problems they share in common. This means that the participants will be those who are on *both* sides of competitiveness issues—companies and institutions. Through this strategy process participants in each cluster group will reach agreements on changes in *their* policies, programs, and practices, focusing on competitiveness challenges. This convening of the marketplace is the crucial hallmark of “Clusters 2.0.” Competitors overseas understand this often in ways that American regions and communities do not. Yet this is the crux of global competitiveness: creating and aligning advantages with producers.
- **Defining Flagships:** The second difference from the past is that cluster groups need to come together with stewards to define the challenges *they share in common* as well as the solutions on which they are willing to work together—across clusters and stewards—to make changes to enhance overall regional competitiveness. These crosscutting needs and associated actions are often called *flagships* because they address the needs of multiple clusters, through either resolving legacy problems or catalyzing new advantages for multiple clusters.

## Why Convene the Marketplace? This Is Where Economic Reality Takes Shape



## Realize: Think Implementation from the Start

In the past, many competitiveness strategies concluded with a report recommending actions. In “Clusters 2.0,” there are no more “wish lists,” only commitments by those who will carry out actions. Moreover, in many strategies, there has been no implementation process in place when the strategy is completed. In “Clusters 2.0,” a regional or community implementation mechanism is defined, designed, and established before the strategy is concluded and launched as the results are presented. Realization of the competitiveness actions increasingly relies upon having:

- **Regional Leadership Organizations:** The first order of business in enabling implementation of regional competitiveness strategies is to redefine leadership—whether for an existing or new economic development body. In next generation economic competitiveness organizations, the leadership focuses not on traditional programs but on decisions and actions of all public and private organizations that impact competitiveness. Ideally, such a leadership organization should help schools, universities, utilities, banks, investors, developers, city and county planning, and regulatory agencies all learn more about what a high performing economy needs and help them adapt how they use their existing resources—just as businesses normally must do to compete.
- **“Real” Cluster Networks:** A second activity that characterizes implementation in “Clusters 2.0” is to ensure that dynamic cluster networks are formed—not simply as associations under a new label, but as real reflections of the surrounding regional marketplace. This means that producers and suppliers are active participants along with every city, county, and state agency that impacts upon them, as well as every major institution that supplies them—schools, universities, banks, power utilities and telecommunications companies, advertising agencies, accounts, and so on. Competitors overseas often have a longer history of regional companies and producers working together to help each other compete—often because they built from where industries naturally started growing (e.g., Northern Italy, Denmark, Baden-Württemberg, Nagoya, Taipei). In the U.S., industry collaboration often tends to be national—focusing on lobbying and pre-competitive technology—which while important does not always address regional

competitiveness challenges. When initiatives were regional in the past, they tended to be one-issue initiatives, such as a workforce training project, rather than enduring alliances and partnerships for building regional advantage. In “Clusters 2.0,” clusters are no longer businesses grouped by themselves, but a real slice of key economic stakeholders.

## Actualize: Sustaining Momentum

Once regional or community-wide leadership and cluster mechanisms are in place, there needs to be strong reinforcement and inducements to maintain commitments and make ongoing collaborative improvements a natural feature of economic culture, not just a once every five year study process. For continuous improvement to become a permanent feature of regions and communities, “Clusters 2.0” suggests that four types of capabilities need to be in place:

- **Collaborative On-Line Communities:** To support this and the community input processes associated with competitiveness strategy, regions and communities are now designing and implementing Internet-based web communities that permit dialogue to take place on a continuing basis. On-line communities become the distribution mechanism for the continuing work of the statewide cluster initiative. These sites are complementary to any set of quarterly or annual forums held by the statewide cluster initiative.
- **Competitiveness Matching Funds:** When clusters undertake competitiveness strategies, their members will typically define competitive challenges and define collaborative actions they are committed to undertaking to improve their performance. While members of the cluster network can and will pursue implementation of certain actions, they will often fail to make progress unless there is a source of external financial support. Regional leadership groups have increasingly established “competitiveness matching funds” that provide a portion of the funding required by a cluster network or their action teams to purchase goods or services needed to carry out an action. The experience of these funds suggests that by reducing the marginal cost of collaborative actions the region and its partners are improving and demonstrating desired new market-focused actions within the recipient cluster. The funds granted go to third parties, not cluster members themselves, and are carefully tracked for compliance.
- **Competitiveness Tracking Systems:** Regions and communities will periodically measure the performance of their economies—the clusters that comprise them as well as their economic input institutions. However, each time the region or community undertakes these activities, the metrics used may be different and the results difficult, if not impossible, to reconcile with the prior analysis. For this reason, as regional cluster experience has matured, region leadership groups are now setting in place competitiveness tracking systems that use consistent metrics for overall regional economic performance. A well-designed competitiveness tracking system is essential as a base for enabling and supporting implementation accountability over time.

## Conclusion: Reward Collaboration and Celebrate Innovation

Markets *are* the epitome of collaboration. Effective regional cluster action is a result of a change in collaborative culture—not necessarily about new projects or programs. “Hot” economic regions—regions with a high rate of enterprise formation, expansion and attraction—have a long history of entrepreneurship among businesses *and* institutions. What is consistent about the “hot” regional economies is an enduring tradition of agility across both the private and public sectors. For this reason, building and sustaining a regional industry cluster action initiative requires a constant “hunt” for examples of innovation and adaptation by businesses and institutions, and recognition of these collaborative entrepreneurs. This means identifying and celebrating examples of actions that demonstrate creative thinking, adaptive concepts, and innovation practices.

In “Clusters 2.0,” renewing and re-energizing cluster competitiveness strategy should become an ongoing process: stewards and clusters meeting throughout the year, generating annual reports on how the region and its clusters are performing—measured against benchmarks—shared with the surrounding community. These ongoing processes should renew cluster understanding of competitive challenges and forge new commitments to action that can be tracked as they are implemented.

At the end of the day, if American regions and communities are going to effectively compete in the global marketplace, their way of thinking will need to embrace continuous improvement without hesitation. American regions and communities have stronger institutions of research and higher education and more entrepreneurial culture than most competitors, yet in the global marketplace, economic development must become everyone’s job, every day. That is what “Clusters 2.0” is all about: learning to change and changing to compete.