

## ICT and the Building of an Education Cluster in T&T

Education, skill development and the generation of new ideas are keys to human development, civil society, economic growth and national competitiveness. Innovative societies and economies are shaped through the development of high quality and diverse education, training and research foundations as well as a culture of knowledge sharing and a significant investment in people as the most valuable national asset. For such goals to be attained in this modern age, all this must be predicated on robust information and communications technology (ICT) infrastructure.

In this regard Vision 2020 specifically calls for a Trinidad and Tobago which produces people who are *"highly skilled, well educated ... aspiring to a local culture of excellence that is driven by equal access to learning opportunities. Our people acknowledge and actively pursue the development of self and country by being socially responsible and contributing to economic development."*

**ICT Enabled Clusters:** A cluster is a group of interconnected economic and research institutions faced with common opportunities and threats, usually co-located in a particular geographic region. The development of clusters based on a platform and foundation of ICT has been a key factor in the acceleration and success of economic initiatives globally. Nations around the world have long known and been experiencing the benefits of clusters such that these are a prominent feature of every advanced national economy. This is due to the fact that clusters:

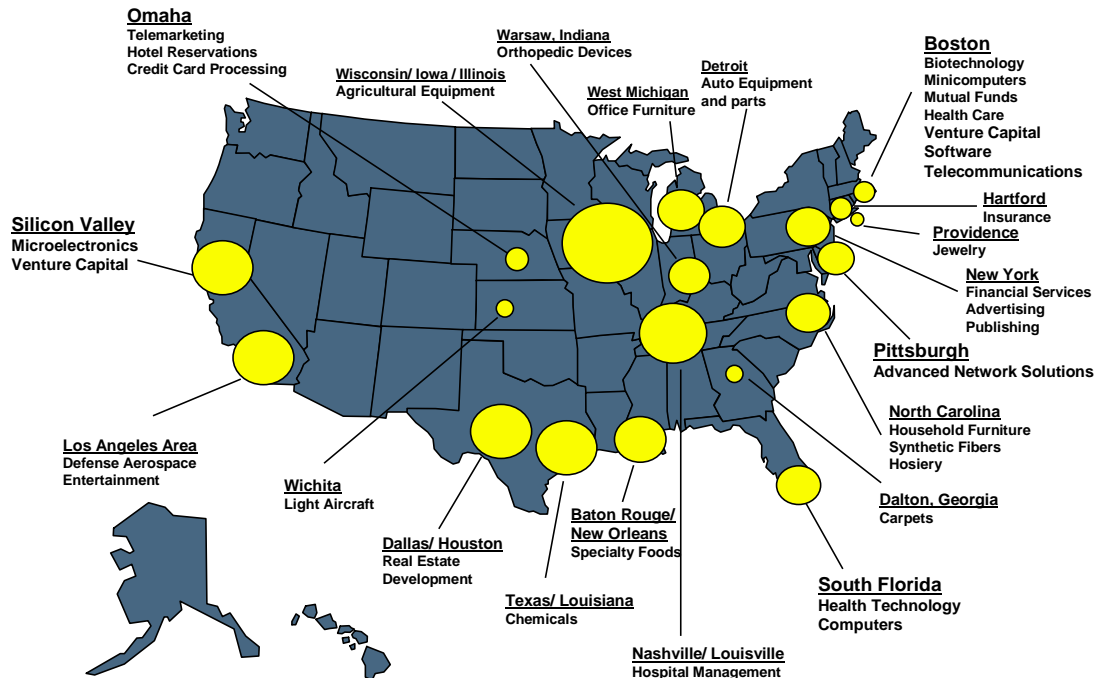
- give rise to external economies (e.g. specialized technical and financial services, sector specific management skills, training and workforce synergies etc.);
- create a conducive ground for the development of inter-firm cooperation and public-private partnerships, to promote local production, innovation and collective learning;
- can act as the drivers and beneficiaries of R&D initiatives;
- exceed the scale of individual firms allowing the cluster to collaboratively service larger contracts both at the local and international levels.

If we take for example the United States; the US is not a competitive nation. It is a nation of competitive clusters (see **Figure 1**):

**Figure 1: Competitive U.S. Clusters<sup>1</sup>**

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<sup>1</sup> OTF Clusters and Competitiveness Report 2008



Some of the specific strategies for catalysing a local Education Cluster (or any industry specific cluster for that matter) include:

- Attracting Globally-Renowned Anchor Institutions to Operate Domestically:**  
 Imagine if Harvard, Stanford or UC Berkeley set-up a campus in T&T. That would surely kick-start our education cluster! Such world-renowned institutions would bring with them world-class technology enabled learning infrastructure, teaching pedagogy, operational best-practices and not to mention their globally-recognised brand - immediately making Trinidad and Tobago stand out in the realm of education, in the Caribbean and Latin American Region.
- Upgrading Sector-wide Infrastructure:** Single domestic (or even international) research or education institutions can seldom successfully compete in the global marketplace and win on their own. An education cluster will rely on diverse inputs and infrastructure elements - including ICT, security, utilities, physical infrastructure, intellectual property and financing - in order to be successful. Upgrading therefore must be looked upon not in the context of individual institutions but in the upgrading of the holistic cluster.
- Identifying Specific Focus Areas** (for e.g. education sub-clusters in energy, financial services, or ICT) - Knowledge-based industries which develop deep and specialised capabilities to serve the most demanding of customers, are much more likely to be fuelled by higher-skilled, higher-paid workers and tend to be significantly more profitable than clusters that compete on costs rather than true differentiation. It is through the channelling of finite resources into the development of niche expertise in specific strategic areas - possibly those in which the country already has a competitive advantage - which will allow Trinidad and Tobago to stamp its mark within the global education arena.

## Elements of a Local Education Cluster

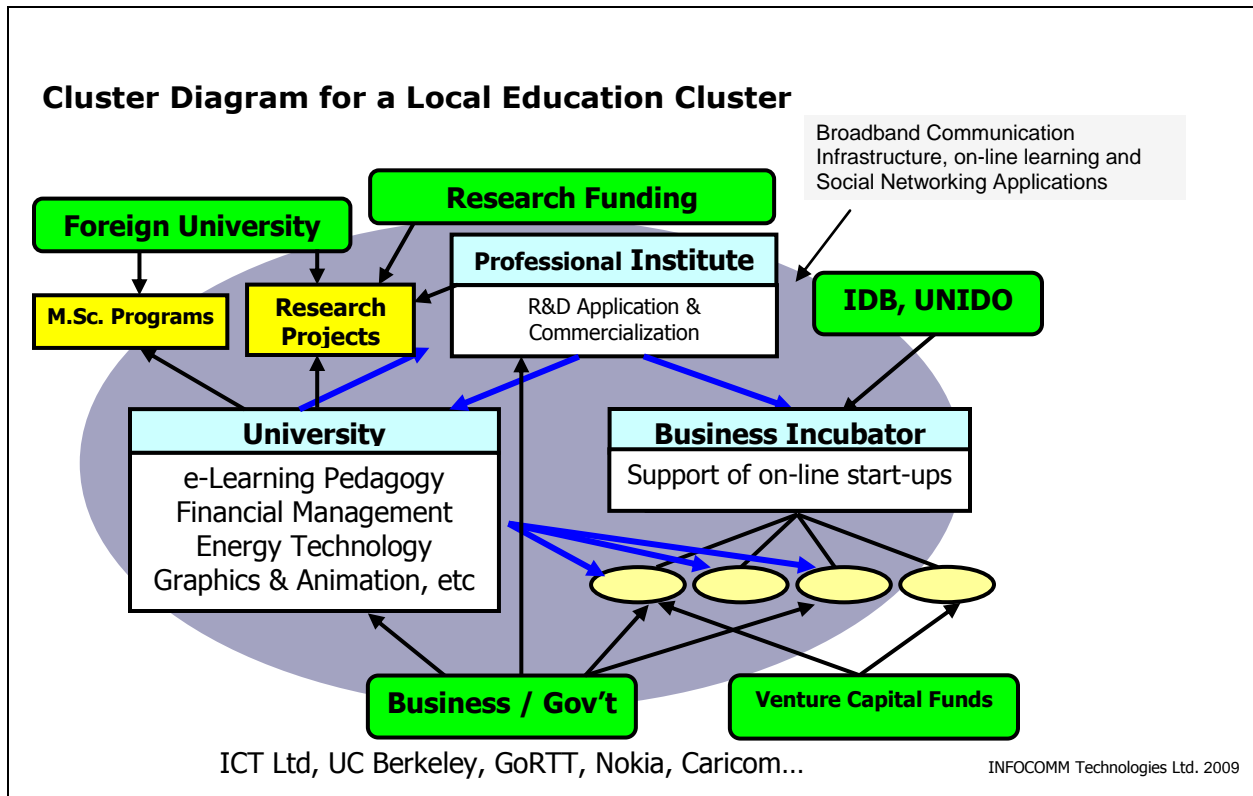
Some of the building blocks of a local education cluster are already here:

- **Local Education Institutions:** The existence of public and private education institutions such as the National Library Information System (NALIS), the University of Trinidad and Tobago (UTT), University of the West Indies (UWI), University of Southern Caribbean, School of Business & Computer Science (SBCS), School of Accounting and Management (SAM), among many others, along with the local Professors, lecturers, and content experts.
- **Improved ICT Infrastructure:** The existence of Government's Information Technology Campaign – *fastforward* – which incorporates projects such as GovNetT (the GoRTT Wide Area Network), TTConnect, and the opening up the telecommunications sector to competition, has resulted in rapid improvements in broadband availability and cost. T&T's internet access costs now being the cheapest in the Region through upgraded services from companies like TSTT, Digicel and Flow.
- **Best-practice local and international firms** operating domestically who are in need of cutting edge research and innovation in order to survive in their respective industries. These firms can become the drivers and benefactors of cluster research, inventions, workforce upgrading and skills training which will thereby fuel their international competitiveness.
- **Increased ICT Savvy within the local population** from which the Cluster's Human capital will be drawn. This includes the increasing familiarity in the general population with global social networks, such as Linked In, Facebook, Twitter, etc., which has built competence and awareness of the methods and benefits of interacting / exchanging information on-line. But also there is the emergence of competent web-development, graphics, web-hosting, and animation ICT firms in the country, who are now in a position to put these skills to work creating on-line applications and savvy e-learning solutions which will fuel the development of the cluster.

**Figure 2: Network / Cluster diagram For a Local Education Cluster** <sup>2</sup>

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<sup>2</sup> Diagram from INFOCOMM Technologies Ltd. ([www.ict.co.tt](http://www.ict.co.tt))



**Key:**



Human capital and knowledge are key inputs for any country serious about improving its international competitiveness. Caribbean education systems are increasingly out of sync with “new economy” realities, and more attention needs to be placed on upgrading knowledge and human capital. While free tertiary education and more industry focused Universities (like the University of Trinidad and Tobago (UTT)) are steps in the right direction, the education offered in any successful cluster must be relevant to current and expected business and societal needs.

As such we might be able to envision local education clusters by geography in Trinidad and Tobago such as:

- Petroleum and Extractive Industry Engineering (South Trinidad and Offshore)
- Culture and Entertainment Arts (Queens Park Savannah)
- Finance and Banking (P.O.S)
- Knowledge Management (Proposed Data Farm Tamana InTeCK Park)
- Retreat-based Executive Education (Tobago)
- Health, Hospitality and Tourism Management (Tobago)

**Fundamental Requirements for Education Cluster Progress**

While Trinidad and Tobago is starting from arguably an enviable position in respect of the establishment of an education cluster predicated on a platform of ICT, there are fundamental requirements that must be met to propel us from our current position and that stated goal.

**Leveraging on Existing Initiatives:** Good intentioned Caribbean-wide initiatives such as CARICOM's Caribbean Knowledge and Learning Network (CKLN), Caribbean Association of National Telecommunications Operators' (CANTO's) and the Caribbean Telecommunications Union's (CTU's) "Connect the Caribbean" Initiatives; even the Education and Cultural Outreach projects done through the Trinidad and Tobago National Commission for UNESCO, which tap into international knowledge bases are positive foundations on which to build. One of the major points of attraction for International Universities and Institutions which we may invite to domicile in Trinidad and Tobago, will be the ability to gain rich access to Caribbean-wide research – not just research on T&T. This type of pan-Regional knowledge, connectivity and ICT infrastructure will be a major boon to the viability of a local education cluster.

**Sharing of Information:** Collaboration and sharing information for success is at the core of knowledge clusters. Culturally if we as a people share information such that we can learn from ourselves and our experiences then we can meaningfully share and exchange knowledge with others.

**Value for Self:** More local or regional case studies need to be employed in local and regional tertiary level institutions. This type of research contributes to a regional consciousness and to the gaining of insight into local trends such that we can compare international markets with our own in order and make informed decisions toward regional progress.

**Embracing Change:** In the context of a future-driven, ICT-enabled local education cluster which embraces on-line learning, learning will be put in the hands of the learner who will now have much more responsibility to take charge of his own pace of advancement; experts and therefore teachers / consultants in such fields may be much younger than we would traditionally expect and we as a people will have to understand how to duplicate / simulate the social experience of a physical classroom through on-line social networks.

## **Conclusion**

The development of the national human resource must be the cornerstone of any country's holistic program of sustainable development. The development of a world-class education cluster right here in T&T, will have the positive effects of beginning to reverse the brain drain phenomena, giving increased access to the differently-abled community, connecting geographically remote communities, and allowing meaningful contributions to be made by all our citizens. This can be done through inclusive education policy, ICT based learning and multi-media enhanced instruction delivery. For these and many other reasons I believe the Chamber should be applauded for its championing of an Education ICT-Driven cluster in T&T. This should be afforded the highest priority by the government, given its dual aspirations of Vision 2020 and the goal of becoming a Knowledge-based society.