“Ottawa’s Telecommunications Cluster: Some Initial Findings”

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PRIME’s Research into the Ottawa Region

- Cluster study of the Ottawa Telecommunications sector
- Cluster study of the Ottawa Photonics sector
- CATA TechAction meetings (Ottawa, 03.22.02)
- Nascent ‘Working Group’ on cluster research
- The Joint PRIME-CRIC Telecommunications Research Project
- Innovation in the Hemisphere
- International comparison work (Scotland, Spain…)
- National comparisons
Ottawa as a “Cluster-Studied Region”

- Previous and on-going work by others on Ottawa
  - Carleton University
  - A number of consultants (PcW, DoyleTech, etc.)
  - A number of government departments and agencies (Municipal, Provincial and Federal)
  - Informed and active participants from the community

- Result
  - No shortage of information or perspectives on the future of Ottawa clusters by the ‘clusters’ research community’
Two themes to restate from *Local and Regional Systems of Innovation*

1. Idiosyncratic nature of innovation and clusters
2. The emergent properties of clusters

Some themes and ideas that we are interested in and are now or planning on pursuing

- Knowledge creation → Innovation
- Learning at the organizational and regional levels
- Evolution and bridging of technologies and markets
- The non-cloistered nature of technology and industry
- The value-added linkages between players in the region
- The role of policy in stimulating and enhancing results
Some Characteristics of Ottawa’s ICT Clusters

- A large and mature cluster
  - Roots to research into Radar technologies for military applications (NRC, CRC)
  - Nortel’s lab presence since early 1960’s
  - Other important early entrants
- Result:
  - 1200 High-tech firms
  - 70,000 employees (down from over 80,000, 2000)
Industrial Structure

Traditionally:
- Infrastructure manufacturers or Specialty Equipment Manufacturers (Fransman)

Now:
- Photonics (from telecommunications and in aerospace, but going into Bio-medical, Bio-technology)
- Fabless semiconductors
- Software
- 90% are export oriented
Industrial Structure

- Research-based activities
  - Nortel’s $5.9 billion in R&D (2000)
    - Magnet effects here (Post-Doc’s etc.)
  - Fabless Semi-conductor Firms
- Value-chain analysis helpful
Technological Context

Switching Technologies
- Electro-mechanical
- Digital
- Optical

Content
- Pure voice
- Data
Institutional Context

- Federal Government and Federal Labs
  - NRC
    - IRAP
    - Institute for Microstructural Sciences (IMS)
  - CRC
- Canadian Photonics Fabrication Centre (CPFC)
- investment of $45 million
Institutional Context (Cont.)

- Provincial Government
  - Ontario Centres of Excellence in:
    - Telecommunications
    - Photonics

- Regional Government
  - Entrepreneurship Centre
  - Ottawa Economic Development Corporation (OED) → OCRI (merger)
Institutional Context (Cont.)

Universities
- Graduates
  - MBA’s (High-Tech Case Competitions)
- Research
  - School of Information Technology and Engineering (SITE), University of Ottawa

Community Colleges (Algonquin College)
- Photonics Engineering Technology Diploma (Fall 2002)
Institutional Context (Cont.)

- Ottawa Centre for Research and Innovation (OCRI)
  - Various forums for groups to get together and communicate (formal and informal)
  - Oversupply?
- Ottawa Partnership
- Many others…
Venture Capital

Historical character of Ottawa—Paper

Noranda first VC investor

Building mass?

Denzil Doyle (formerly of Digital Canada)

Terry Matthews (Welsh) and Newbridge’s Affiliates program

Locally based venture capitalists as Magnet
Venture Capital (Cont.)

Recently:

- 2000: $1.3 billion (estimates, CVCA)
- 2001: $1.1 billion (estimates, CVCA)
  
  Decline of 15.5% is less than national average of 27%

Too much money?

Changes in what is being funded
  
i.e. second generation V.C.
CATA’s TechAction Town Hall Meeting

- Some interesting results from two different surveys
  - Telephone interviews with approximately 100 President’s, CEO’s of firms (results here)
  - Live generated results from the event itself
Implications to be Investigated

- A Strategy that we could expect but should avoid – Resting on our past successes
  - Examples: Sheffield, England; The Rustbelt, USA
- Strategy for growth is one that continues to create knowledge, innovate and evolve through markets
- Therefore we may wish to avoid convergence or the “picking of winners” and support divergence and entrepreneurship
Implications to be Investigated (Cont.)

- Do we have enough large firms?
  - Both an Ottawa and Canadian issue
- In large, supported clusters, do firms (especially SME’s) need cluster specific strategies for communication, information sharing and knowledge generation?
Thank You, Merci!

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