

GLOBALLY-RECOGNIZED CLUSTERS IN THE TORONTO REGION: WIRELESS & RFID TECHNOLOGIES

THE TORONTO REGION IS ...

- The third largest ICT cluster in North America with a workforce of 150,000 in the computer and electronics sectors
- A growing hub of companies that provide wireless and RFID products and services, including: Ahearn & Soper Inc., BCS, Certicom, COM DEV International, Communication and Power Industries, Ericsson Communications Canada, GlobeStar Systems, Mine Radio Systems, MyThum Interactive, Nortel Networks, Omron Canada Inc., Psion Teklogix Inc., Redline Communications Inc., Research in Motion (RIM), TerteC Enterprises, Tira Wireless, Weber Marking Systems and Xmark Corporation
- Ranked #3 in North America in terms of numbers of citations per publication on the subject of wireless and related technologies, and ranked #5 in overall numbers of publications and citations
- Home to 130 university and college programs in engineering and computer science related programs that produce a highly-educated and highly-skilled workforce:
 - 7,000 university graduates (all levels) in wireless and RFID programs

ADVANTAGES

- A world-leading economic region:
 - Named one of the world's top 10 economic centres by Standard & Poor's in 2007
 - Ranked #2 Top City Regions of the Future by Foreign Direct Investment magazine (2007)
 - Ranked #10 most economically powerful city by Forbes.com (July 2008)
- 7.2 million people live in the Toronto Region, making it the 4th largest urban region in North America
- Immigration responsive to company needs:
 - Uncapped number of work permits available to foreign workers
 - Process for intra-company transfers is fast and straightforward
 - Special programs allow employers to permanently recruit high-end research staff and other workers within defined occupations
- Canada's largest centre for research and education – location for 35% of all R&D conducted in Canada
- 1.8 million workers (25-64 years of age) with a university degree or college certificate – the most educated population in the G8 in terms of per cent of workforce (64%)
- Part of a well-developed transportation and communications infrastructure – air, rail, highway and information corridors – that easily moves people, goods and data to cities in the US Midwest and Northeast

WORLD-CLASS RESEARCH AND EDUCATION

- Toronto Region universities are a hub of research excellence:
 - 9 National Science and Engineering Research Council (NSERC) Canada Research Chairs in Electrical and Electronic Engineering and Information Technology
 - 4 NSERC Industrial Research Chairs
 - \$9.8 million in wireless and RFID infrastructure funding from the Canadian Foundation for Innovation (1998-2007)

- A centre of advanced research and development based in Toronto Region universities, including:
 - **University of Toronto:** Emerging Communications Technology Institute, Nortel Institute for Telecommunications, Centre for Applied Power Electronics, Centre for Microelectronics Assembly and Packaging, Energenius Centre for Advanced Nanotechnology, Adaptive Technology Resource Centre, and Institute for Knowledge Innovation and Technology
 - **University of Waterloo:** Centre for Wireless Communication; Centre for Integrated RF Engineering; Nortel Networks Institute
 - **McMaster University:** Centre for Emerging Device Technologies, Centre for Electrophotonic Materials & Devices, Management of Innovation & New Technology Research Centre
 - **Ryerson University:** Rogers Communication Centre, Institute for Innovation and Technology Management (IITM)
 - **University of Guelph:** Institute for Robotics & Intelligent Systems

“The Toronto Region is home to one of the largest and most productive concentrations of research and development talent in the world, and serves as a portal to all of North America’s major markets and institutions.”

– Dan Fortin, President, IBM Canada Ltd.

Leading Regions in North America for Wireless Publications and Citations, 2003-2008

Region	Number of Publications	Number of Citations	Number of Citations/ Publication
California	102	495	4.85
Massachusetts	71	304	4.28
New York	44	143	3.25
Pennsylvania	34	100	2.94
Toronto Region	24	106	4.42
New Jersey	23	89	3.87
Illinois	22	33	1.50
North Carolina	18	53	2.94
Minnesota	14	255	18.21
Virginia	13	21	1.62

Source: ISI

WEB LINKS

Toronto Region Research Alliance	www.trra.ca
McMaster University	www.mcmaster.ca
Ryerson University	www.ryerson.ca
University of Guelph	www.uguelph.ca
University of Toronto	www.utoronto.ca
University of Waterloo	www.uwaterloo.ca
Canadian Institute for Advanced Research	www.cifar.ca

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TORONTO REGION IS HOME TO A GROWING WIRELESS AND RFID INNOVATION CLUSTER

