

LocoMotive



Project no. 030089

LOCOMOTIVE

“Dissemination of knowledge concerning current R&D localisation motives of large regionally important private sector organizations”

Coordination Action

Regions of Knowledge 2

Visit Report Toronto

(Deliverable D8)

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1. Introduction

LOCOMOTIVE is a project funded by the European Commission Framework 6 Programme “Regions of Knowledge 2”. The project aims at providing regional policy makers with a better understanding of the current research & development (R&D) investment policies of large private sector companies in their regions compared with trends in other regions in Europe. This it is hoped will contribute to improving policies towards making European regions more attractive as locations for R&D.

Regions of Knowledge is a relatively new concept introduced by the European Commission DG Research to stimulate innovation poles and partnerships at regional and local levels. The policy idea is to promote increased and better regional investment in research through mutual learning, coordination and collaboration in support of attainment of the Lisbon Agenda.

The Lisbon Agenda agreed by the Council of Ministers in 2000 was supposed to set Europe on the path to becoming “*the most competitive and dynamic knowledge based economy in the world*” by 2010. In support of this, the so called Barcelona objective was agreed that R&D investment in the EU should rise to 3% of GDP with two thirds coming from the private sector. Currently this target is not being met and obviously more needs to be done to increase R&D investment in Europe. There is general agreement that regional policy makers have a role to play, but it is not clear what this should be. One of the problems in making innovation policies, and especially regional innovation policies, effective is the difficulty in establishing a dialogue between the significant private sector R&D actors, usually meaning multinational enterprises (MNEs), and those from public sector. They are worlds apart. LOCOMOTIVE aims to bridge this gap in a highly pragmatic manner, by offering a framework for discussion and analysis.

LOCOMOTIVE is a coordination action which aims both to provide an analysis of current thinking in MNE and large companies with regard to regional influences on their location for R&D as well as the opportunity for relationship building between key private sector R&D decision-makers and the project partners from these regions.

The approach taken in the project is for each partner to carry out interviews with senior decision makers of MNEs in their regions according to a commonly agreed structure and questions. These then formed the basis for roundtable discussions involving representatives from the private sector, regional authorities and research. The LOCOMOTIVE consortium represents nine regions, not particularly being similar but to provide contrasting view points.

However, a feature inbuilt into the project was to find a region for comparison outside the European Union. The region around Toronto, Ontario (Canada), was selected since it is both an innovation hot spot, but also considered culturally more similar to Europe than other locations in the USA or Asia. Therefore a study visit to Toronto was conducted in April 2007.

The visit was organised with the help of David Wolfe, Professor of Political Science at the University of Toronto at Mississauga and Co-Director of the Program on Globalization and Regional Innovation Systems (PROGRIS) at the **Munk Centre for International Studies (MCIS) at the University of Toronto**.

PROGRIS (http://www.utoronto.ca/progris/web_files/aboutus.htm) serves as the national secretariat for the Innovation Systems Research Network (ISRN), funded by the Social Sciences and Humanities Research Council of Canada. Professor David Wolfe is National Coordinator of the ISRN and from 2001 to 2005 he was the Principal Investigator on its Major Collaborative Research Initiative grant on *Innovation Systems and Economic Development: the Role of Local and Regional Clusters in Canada*, a comparative study of twenty-six industrial clusters across Canada. Along with Meric Gertler, he has recently been awarded a new MCRI grant from SSHRC on the *Social Dynamics of Economic Performance: Innovation and Creativity in City Regions* which runs from 2006 to 2010.



Sascha Haselmayer (Interlace), Axel Wegner (TuTech Innovation), Irma Patala (Culminatum), Fabienne Fortanier (Erasmus), David Wolfe (Munk Centre Toronto), Monica Schofield (TuTech Innovation), Tim Vorley (OxSEC), Elie Bruguerolas (RUTMP) in front of the IBM Software Centre in Markham.

The LOCOMOTIVE partners would like to express their thanks to Professor David Wolfe for providing an interesting programme which certainly took a lot of effort to set up and coordinate. Professor Wolfe did all this work without having funds available from the project.

Our thanks also go to Jennifer Nelles from the Munk Centre for so nicely chaperoning us during the visit and to the Knowledge Design Media Institute at the University of Toronto for helping with the visit to IBM.

This report in its order of chapters follows the itinerary set up for us and describes the main features and remarks for each of the visiting points.

2. Innovation Synergy Centre in Markham



Innovation Synergy Centre in Markham (ISCM) is a business advisory centre for small and medium sized enterprises. The main focus is to provide access to experienced business professionals to enhance their business growth to next level. ISCM provides guidance, resources and contacts to reach a smart growth rate. The centre aims to reduce the failure rate of small and medium sized businesses.

ISCM has officially been established in May 2003 but started actively soliciting clients in December 2003. Synergy Centre is supported by the Town of Markham, Ontario Government, National Research Council Canada, York University and Seneca College. Its founding partners include RBC Royal Bank and the centre gets additional support from Ministry of Economic Development and Trade. Centre partners also with various organisations, either individually or jointly to present events that focus on business issues like export, education, business issues and training.

The main objective for an advisory centre is not only to improve and develop businesses but also create new opportunities. Centre has an employing effect on the community. Indirect effects of the centre are job retention, new job creation and expansion and maintenance of the tax base. The Centre focuses on existing business opportunities as it is much easier and cost-effective that to create new ones. They offer Mentor Advisory services without costs. Value added issues in ISCM are wide range of access to experienced business leaders, problem solving skills and paradigms, longer term strategic guidance, advice on current

business opportunities and general assistance in various fields of business. ISCM offers assistance in marketing, financing, planning, operations and competitive analysis.

ISCM sees their key role as provider of single point of contact to range of services to growth companies including mentor advisory services, business proposals linkage to angel investors, linkages to other organisations and government programs, technology partnership programs as well as educations and networking events. They have consulted some 500 companies with approximately 1,7 sessions per company. In 2006 161 companies were supported in province of Ontario with geographically focus on Markham, Toronto, and other York region.

3. Tour of IBM Toronto Software Lab



The IBM Toronto Software Lab is one of the largest software development laboratories within IBM world-wide and the largest software development facility in Canada concentrating on products for worldwide distribution in the areas of: application development tooling, application servers, database management software, electronic commerce applications, and systems management solutions. Also located at the lab's site in Markham is the IBM Center for Advanced Studies (CAS) Toronto in which university research and interns plays a particular role in identifying and working on strategic mid- to long-term issues that are continually roadmapped, since update cycles have changed from yearly to less than quarterly intervals.

Researchers are identified in the regional universities against their competences and relevance to specific areas.

Intellectual Property issues are important, yet IBM takes a flexible approach. In general terms (although each University has their own policies), IBM allows the researcher to retain the IP with a license to use for IBM. Academic publications, if sensitive, are reviewed by IBM in a rapid process to ensure no trade secrets are published – generally this is considered a tweaking with no implication to the research publication.

Today, IBM has agreements about cooperation frameworks with each regional university reflecting their particular policies. Different measures are taken to evaluate the IBM input in research, i.e. taking into account soft and hard in-kind funding. Central government evaluates the contributions, and IBM tries to involve central government agencies to provide transparency about agreements.

A concern for IBM is less the loss of IP, but the illegal or unreported 'import' of IP through researchers and interns.

Today the site employs 2.500 staff. IBM first moved to Toronto 40 years ago when the main objective was the significant discount to US costs. In fact, this determined many of the later growth and investments, although the currency efficiency has almost disappeared by now.

Original activities included software, and in particular bank machines (then sold to Celestica). The move to Markham (20 years ago) involved also a major investment by central government on a loan on deferred repayment to establish the extended e-commerce software development facility. Markham is seen as a lower-cost alternative to the previous mid-town Toronto location, and further reflects the in-bound commuting pattern of many employees. IBM's move to Markham triggered the development of the ICT cluster in the area, established today.

Increasingly, major public contracts (e.g. military) need to demonstrate national / regional offsets such as R&D investments. IBM has a tradition of decentralised R&D, thereby making it easy to follow best conditions in investments. Further, Toronto offers a unique pooling of excellence – within 2 hrs drive, world-class researchers are available from Markham.

International diversity is very high, and IBM recruits 60% of employees (globally) directly from universities.

IBM works closely with Markham, to improve services (infrastructures, transport, housing, entertainment). The workforce is very young (under 30), and the location in Markham is seen as ideal as a strategic point in the commuting pattern of employees.

Tax incentives and subsidies on buildings are a significant instrument. A TPC grant funded much of the last new building facility (30-35m CDN\$) through an interest free loan repayable out of unit-profits.

IBM has several programmes for cooperation with universities and research.

1. Internships: 1 year work experience with about 2-400 interns per year in Canada.
2. Extreme Blue: IBM's elite internship programme attracting top 25 students for 17 week internship to work with highest level internal resources and mentors. Fast track into top jobs and to attract highest quality talent, selections are undertaken in close collaboration with faculty at the different universities.

Recruitment is a core challenge, especially with increasing specialisation of tasks and professional profiles related to the vertical development of software fields, rather than the historic layer based approach.

CAS centres are now being linked globally – i.e. CAS Barcelona will send 3 exchange students to Toronto this year.

Research centres are loosely linked and governed. Short-term research is often done by students / interns, and mid-term research by academics or professional research at universities.

Measuring efficiency is a challenge, one measure is recruitment against research funded. CAS works with an assumption that 1 PhD student works with 3 MA students and achieves a recruitment rate of 1.1 new employees per researcher funded. This double agenda is important – the link between research and recruitment. Further measures include publication citation, and the indirect promotion of IBM theory / technologies through researchers and professors.

Funding efficiency is another factor, i.e. IBM officially funds 22 projects, which in reality fund 47 projects.

IBM Academy is an internal research organisation of 300 top creative people in IBM, meeting regular and directly advising the chair and hold conferences. Increasingly, eMeeting, virtual conferences and other collaborative technologies are used and tested to improve community building. Thousands of internal blogs are structured into thematic communities of interest and expertise through new mechanisms.

IBM work relatively little with SMEs and focus more on universities as R&D partners. SMEs tend to have problems binding key resources of interest to IBM in management.

4. Toronto Region Research Alliance (TRRA)



The Toronto Region Research Alliance (TRRA) is an innovative network of regional leaders engaged in transforming the Toronto region into a world-leading centre for research and research-intensive industry. TRRA serves the broader Toronto region, embracing Hamilton, Guelph, the Waterloo Region and the Greater Toronto Area. The board of directors is composed of presidents, chief executive officers and senior leaders from the region's business, research and municipal organizations. TRRA is a results-oriented, non-profit organization supported by a wide range of regional stakeholders and the governments of Ontario and Canada.

The greater Toronto region includes 7 million people, or app. 20% of the Canadian population. It is home to 40% of the corporate head offices in Canada, and to 30% of Canadian R&D expenditure making it the economic centre of the country with the exception of oil/resources industry (in Alberta). The greater Toronto region is much larger than the city of Toronto. The city of Toronto accounts for about 1/3 of the population and 1/2 of the economic

activity of the greater Toronto region. Challenges of Toronto City are becoming more similar to those of some US cities: some areas are poor and isolated, there is substantial immigration (which also creates much dynamic); jobs are moving from Toronto city to the surrounding region.

Three key success stories have become icons of innovation in Toronto: insulin, stem cells, and the Blackberry – representing the regional strengths in biomedical research and ICT. One of the strong points of the Toronto region is its highly educated and diverse labour force, which in contrast to most other Canadian regions, is not projected to decline in the big wave of 'baby boom' retirement (due to immigration).

Toronto city is not the only successful city in the region. Other examples include:

- IBM facilities in Markham. There used to be 'nothing' in Markham, but since IBM moved there twenty years ago, a lot of small ICT firms and start-ups have been created in the vicinity. Tax credits were a major incentive for IBM to relocate.
- 'Pill Hill', in Mississauga, with major pharmaceutical investment
- The ATI (now AMD) facility in Austen, with 3000 engineers

Canada is a foreign-investment dominated economy (of which 85% comes from the US), with very few large domestic firms. The key reason for this lack of Canadian large firms is that when local high-tech SMEs obtain a certain size, they get bought by US investors, that are able to offer 2 to 3 times as much compared to Canadian investors (as US investors tend to value the Canadian SMEs higher than Canadian investors). This often results in a reduction of R&D in Canada (which is moved to the US). For example, GE took over Zeon (water utility) and reduced R&D staff. However, this is not always the case: when Sanofi bought in, it expanded the R&D facilities to one of the largest (worldwide?) vaccine R&D and manufacturing facilities.

One of the most important industries for Canada and particularly the Ontario region is the automotive industry. Many factories are located along the 401-highway, including e.g. GM in Oshawa, Ford in Oakville, and Chrysler in Brampton, as well as several major Asian foreign investors like Toyota and Honda. Magna is a major Canadian automotive parts manufacturer. Government policy was vital in keeping the auto industry in the region, and increasing its size. A fund of 500m CAD was made available for incentives in this industry alone in the past years.

The auto industry became important when US firms invested to access the highly protected Canadian market (tariff-jumping FDI). Now that Canada and the US have a free trade agreement (NAFTA, and its predecessors), US and Canadian car manufacturing are fully integrated, with some parts crossing the border several times (as parts of increasingly larger components).

TRRA is a relatively young organization (1-2 years old), with 10 employees and an annual budget of CAD 3 million (of which app 1/3 from the federal government, 1/3 from the provincial government, and 1/3 from other regional stakeholders, including municipalities, universities and colleges, and private sector firms). The aim of TRRA is to 'accelerate innovation', branding the region as an innovation space that is qualitatively comparable to, yet distinctly different from, regions like Boston or Silicon Valley.

The TRRA strategy is focused on attracting, keeping, and expanding, the investments of large companies. The rationale behind this focus on large firms is that only in really bad economic times, small firms are the major job creators. In a good economic climate, job growth tends to come from large firms (according to recent Statistics Canada study). TRAA does not deal with the automotive industry, as that is dealt with by 'everyone else'. Instead, they focus on ICT, biotech/life science, and advanced manufacturing and aerospace.

TRRA is an initiative that resulted from the concerns among the various stakeholders in the Toronto region approximately four years ago, when the economy was negatively affected by a series of events: 9/11 (that shut the US-Canadian border down), SARS, and a strengthening Canadian currency due to high oil prices. In order to foster economic growth, two key areas for improvement were identified (for which TRRA was set up):

- the lack of linkages between university research and economic development,
- the lack of attention for MNE strategies and investments (much was still SME and cluster oriented, trade missions abroad had no mandate to work with firms already in the region),

One of the activities of TRRA is to help create attractive incentive packages for MNEs. No big company will make an investment without an incentive package (and a firm like e.g. IBM also wants incentives to stay). While not the most important motive for firms to invest in a certain location (e.g., it is only marginally important to select the top20 potential investment locations for a new factory), incentives do become much more important when the number of potential investment locations gets narrowed down (e.g., to choose among the top 3).

5. MaRS Discovery District



The discussion with Tim McTiernan, Executive Director Innovations and Assistant Vice President Research at the University of Toronto (UoT) with colleagues focussed on how the UoT deals with tech transfer and commercialisation and the challenges of implementing a transfer strategy. Many of these were very familiar to all of us working close to universities. Ownership issues to do with IPR are very much determined independently by universities themselves in Canada, with each having an own model.

The UoTs strategy for tech transfer and licensing was formally established in c.1999 although it appeared as a bolt on to the university's ambition as a leading teaching and research institution. Following an external audit 2004/5 the strategy and organisational structure of the tech transfer and commercialisation operations at UofT were overhauled and integrated into the university, besides teaching and research as a core function. This is in part an outcome of the university's strategic plan, but also the appointment of the new vice-president for tech transfer and commercialisation, and how it is linked into the research faculty at vice president level. The university also made revisions with respect to the ownership of intellectual property by faculty, which had formerly been fragmented across the university, to a single consolidated policy.

The strategy and ability to overhaul the tech transfer and commercialisation process was radical in the sense that the function was not revised, restructured or developed - it was effectively replace with a new entity positioned central to the university. While the university is not the sole mechanism and works closely with a range of external intermediaries such as BioNow, although the university remains closely associated with any commercial/tech transfer projects involving UofT. Key to the current strategy is acknowledging its capacity and capabilities so it is able to deliver, and with intermediaries as appropriate.

6. BioDiscovery Toronto



BioDiscovery Toronto is a \$10 million publicly funded non-profit organisation linking nine of Toronto's internationally recognised biomedical research institutions

for the commercialization of research. In simplest terms the remit of BioDiscovery Toronto is to provide a one-stop shop for academic researchers and companies seeking break-through biomedical and related technologies. Based at the centre of Toronto's bio-life science community in the MaRS centre, the intention of BioDiscovery Toronto is to catalyse and combined the pipeline from basic research to clinical trials.

The member universities and research hospitals are world leaders in genomics, proteomics, drug discovery, immunology, bioinformatics and assistive devices, with annual funding of more than \$800 million. The BioDiscovery Toronto effectively acts as a portal, providing a central interface for biotechnology and related research activities among members, industry and the financial community. The focus of BioDiscovery Toronto's activities include a focal point into the network of Toronto's research institutions and hospitals, access to new and emerging technologies available for licensing and company creation and access to state-of-

the-art biomedical core facilities and services available for research and development support.

In short, BioDiscovery Toronto focuses on the earliest stages of innovation, and in collaboration with university technology transfer/business development offices of the member institutions to support and promote early stage commercialisation of academic research. This involves drawing on industrial and business expertise at the earliest stages of invention and technology development, and building partnerships with academics, entrepreneurs, industrialists, investors and the government. In recognising that commercial funding cannot sustain and develop the commercialisation function of universities/research institutes, BioDiscovery Toronto attempts to create and facilitate a public/private commercialisation interface. The unique point about BioDiscovery Toronto is the strength of the network of public and private sector organisations which are then drawn together to nurture and create new partnerships working on behalf of the partner organisations.

7. Ministry of Research and Innovation (MRI), Government of Ontario



The Canadian province of Ontario places particular importance on Research and Innovation which is expressed by the unusual fact that the provincial Premier, Dalton McGuinty, also held the post of Minister for Research and Innovation at the time of the LOCOMOTIVE visit.¹

The visit comprised of several presentations from the ministry and was chaired by Janice Summers from the Innovation Policy and ORIC² Secretariat. Presentations were not only on university R&D, which used to be the main issue on MRI's agenda, but which is more and more shifting towards research and innovation in companies.

In the first presentation, John Marshall from the Business Development, Venture Capital, Outreach and Promotion Group presented Ontario's Research and Innovation Agenda. The development of the agenda was based on recommendations from ORIC, formed by the Premier to advise the government on the best way for building "a more creative, innovative and prosperous Ontario". The council is made up of 13 experts from the business, academia, research and innovation communities. The main recommendations from this group advise to Ontario to concentrate on knowledge industries, to attract world-wide best researchers, and to invest in research and innovation in a larger way.

This is also reflected in the strategy of MRI which is a fairly new ministry (only established in 2005 by the current Premier). From a European point of view it is fairly interesting to see the strategic goals and compare them with similar European strategies.

¹ This has changed after the Premier's re-election with the formation of a new cabinet on 30 October 2007 following the elections on 10 October 2007.

² Ontario Research and Innovation Council

Ontario's Innovation Goals

High-level goals for the impact of innovation in Ontario by the year 2020:

- Ontario will be the preferred location to grow knowledge-based businesses because of its innovation culture, commerce-friendly environment, highly qualified workforce, support for business and entrepreneurship, access to investment capital and competitive tax policies.
- Ontario will be the preferred location for the best and brightest scientists and innovators from around the world because of its globally recognized R&D excellence and the efficient transition of ideas from the laboratory bench to the marketplace.
- Ontario will attract increased private-sector investment in R&D, becoming a leader in the rapid introduction of innovative products.
- Ontario will generate the highly qualified workforce needed by an innovation-based economy through greater awareness of the key role played by careers in science, engineering, business and entrepreneurship.
- Ontario's government will lead by example, with integrated and coordinated innovation initiatives across all ministries and a culture of innovation in its own operations.

The implementation of this strategy is still under review through an open consultation proves. One of the key points according to John Marshal is keeping up Ontario's research capacity, R&D spending in the province currently amounts to 2.4 % of the GDP. Means to fund and promote research in Ontario is the Ontario Research Fund, a talent programme for next generation researchers, the International Strategic Opportunities Programme for overseas co-operation (funding project management, travel, facilities and similar, not the research itself), and programmes for awards and fellowships.

Subsequently Brad DeFoe, Manager Commercialization Networks and Programmes talked about Ontario's commercialisation network, which was started in 2001-2002 with a focus on the Life Sciences sector, but now is concerned with more general commercialisation. The programme is addressing specific commercialisation gaps and concentrates on pre-seed and seed capital. The funds are made available through agencies like MaRS (see section 5) which is seen as a provincial focus point for commercialistaion.

The presentations ended with an insight into the regional networks, which are seen as an important tool to drive innovation in the province. In Ontario there are the following:

- Ontario Centres of Excellence, which are local and have a sectorial focus (environment, open source software, ICT, nanotechnologies, medical devices). It is foreseen to raise them to provincial level.
- Knowledge and Technology Transfer Networks
- Regional Innovation Networks (RIN), These are multi-stakeholder, regional development organisations established with provincial funding that support partnerships among business, institutions and local governments to promote innovation. These networks are accepted positively by MNEs as well as others.

All networks are operating separately depending on the driving institutions and persons. Key players often are "pulled in" by the driving people behind a specific network. It was interesting to note that the MRI claimed that RINs are much more successful and effective than traditional clustering methods.

8. City of Toronto Economic Development



The department of economic development at the City of Toronto is fairly large for a city of 2.5 million inhabitants having 75 employees, which allows for a fair degree of specialisation. Our host, Kyle Benham, was concerned with existing cross-sector business initiatives while other units have sector oriented tasks dealing with the ICT, financial services, biomedical, food and beverages, fashion design, and aerospace sectors.

The Toronto region is very technology oriented with the ICT, biomedical and aerospace sectors being the most important ones. As concerns other sectors, the Toronto region is a very important financial centre and has the fourth largest concentration of food and beverages industry in North America.

One of the recent criticisms in research and development in the region was money being put into universities without giving an economic return, this criticism also being voiced by the provincial auditors in investigating the budgets. This criticism created some difficulties for the people from the Toronto Municipality and led to the investigation of issues in industry-university cooperation in the region. The difficulties in university business relations were found to be fairly similar to those well-known in European regions. Universities tend to regard their research as basic research and are reluctant to move into applied research as it is requested by technology-oriented companies. Also, IPR issues between universities and especially companies from the ICT, biomedical and aerospace sectors have proven to be a barrier in cooperation and it had been a concern of the city to push back those barriers in the last two years.

The aerospace sector is seen as particularly important in the Toronto region. Bombardier is producing its Dash 8 series of jetprop planes in the area. This sector also is an example of being effected by world events as there were serious difficulties after 9/11. Bombardier did its best to bridge the post 9/11 times in cooperation with the city, there was neither any provincial nor national help in overcoming the difficulties. The city of Toronto is supporting this sector in providing means for Human Resources development and for innovation. Innovation in the sector currently is concentrating on technologies for more environment friendly planes (fuel efficiency, cabin quality and noise, emissions).

In general, the city talks to multinational enterprises (MNEs) in the area, but these companies are very cautious about their benefits from these talks. The large companies represented in the area mainly have manufacturing facilities while research and development is done elsewhere, mainly in the U.S.A. The major factor in providing support to these firms is the provision of talented and educated people, major initiatives supported by the city therefore concentrate on enhancing and keeping the labour force.

However, MNEs feature prominently in the city's agenda: it is a strategic goal to attract five new MNEs to the region by 2011. The city's economic development group is particularly successful in attracting plants from the food and beverages industries. In this cost conscious sector it is of advantage for the Toronto region that the cost advantage over the United States amounts to as much as 25 %.

Currently the city of Toronto is concentrating on developing a strategy for the environmental sector.

9. Conclusions

The visit to Toronto was an intensive snap-shot of a region with very pro-active development strategies. Like Europe, Canada seems to be very much preoccupied about competition with US and Asia. The former is prevalent because US investors are seen as more aggressive and through the much stronger capital markets, more able to acquire promising hi-growth companies. This seems to provide an underlying dilemma for regional development: there is perceived to be a high risk that regional simply plants seeds for the US to harvest. A recent well-known example was the acquisition of ATI, a graphics solution company, by AMD, with much of the chip design and development subsequently moved to the US. This is of particular concern as there are strong efforts to create an innovation culture in Ontario through innovation networks and centres and through several tax incentives like tax reductions for R&D spending in companies or tax returns on donations to universities from companies or private persons.

In general one can observe that political strategies for becoming a knowledge-based society and for increase in R&D spending are fairly similar to Europe's. But also some of the drawbacks are similar, like in many regions of Europe there seems to be a problem in fragmentation of initiatives promoting and fostering research and development. These work fairly separately and often lack a coherent overall picture and strategy. This is particularly the case with initiatives funded by the government of Ontario and various communal activities. IN all activities there often were heard complaints about the reluctance on the side of MNEs to be part of the regional networks and to discuss their strategies openly with administrations. A counter-example seems to be the IBM Research Laboratory which is closely co-operating with the community of Markham.

The university system seems to be discussing much the same issues familiar to those involved with it in Europe: IPR and revenue leverage, better knowledge transfer support and involvement of SMEs. There also is a discussion about the contradiction between the universities' wish to perform basic research and industry's demand for universities to go more into applied research.

The members of the LOCOMOTIVE party found the visit very inspiring and certainly were able to add fresh thoughts to their regional thinking. Summarising the comments made after the visit, it struck many of them as stunning how similar approaches and problems were to comparable regions in Europe. The main contrast seemed to be the proximity of the Toronto region to the US, which led to a much stronger focus on the innovation situation in the neighbouring country than it would be in Europe. Also many of the problems concerning innovation arise from the relationship to MNEs in the US.

10. Annex 1: Visit itinerary

Tuesday, April 10

1:00 PM **Innovation Synergy Centre in Markham**

Karen Zavitz, Research Community Liason R&D Partnerships Team who is responsible for the Technology Partnership Program helping industry in building R&D partnerships with local Universities and Collages.

Catarina von Maydell, Investment Programs. The ISCM Investment Network - program introduces "investment-ready" early-stage companies to equity investors. Network has close co-operation with National Business Angel Organisation formed five years ago.

Bob Glandfield, President and CEO

Address: 1380 Rodick Road, Suite 100 Markham, Ontario L3R 4G5

ISCM is a "Not for Profit" business advisory hub that was created to help accelerate the growth and development of firms with the objective of assisting grow their sales and employment base. Supported by the Town of Markham, The National Research Council and the Ontario Ministry of Innovation, ISCM business support is offered at no cost to the SME. These services include linking a company to a very experienced business mentor/advisor, workshops and training courses to inform companies about current business issues. ISCM also has a partnering initiative to link companies to other resources for testing and IP development such as Universities and colleges across Ontario.

3:30 PM **Tour of IBM Toronto Software Lab**

Stephen Perelgut, University Relations Manager, IBM

Address: C1 - 8200 Warden Avenue, Markham, ON L6G 1C7

Organized with the assistance of Knowledge Media Design Institute



As one of the largest IBM software development laboratories, the IBM Toronto Lab develops leading products for worldwide distribution in the areas of: application development tooling, application servers, database management software, electronic commerce applications, and systems management solutions. The IBM Toronto Lab is home to more than 2,000 employees from a diverse range of backgrounds and disciplines, with a dynamic mix of early career employees and experienced professionals. Over 70 percent of lab employees hold a degree with a major in computer science, engineering or mathematics, which highlights our technical expertise.

Web References:

<https://www-927.ibm.com/ibm/cas/> (IBM CAS General)

<https://www-927.ibm.com/ibm/cas/toronto/index.shtml> (IBM Toronto CAS)

Wednesday, April 11

9:30 AM Toronto Region Research Alliance (TRRA)

George Tolomiczenko, PhD, MPH, MBA

George is the TRRA Director for Research and Analysis. He has a background in the healthcare sector, and is presently responsible for gathering information relevant for attracting investment and building research capacity. This includes the (annual) release of innovation indicators (favorably) comparing Toronto with other regions.

Mike Williams

Mike is the Senior VP for Investment Attraction at TRRA. He is a regional economic geographer by training and has long been involved in economic development consulting. He is responsible for TRRA's program to attract research-intensive companies and investment to the region.

TRRA is a results-oriented, non-profit organization dedicated to making the Toronto region a world-leading centre for research and research-intensive industry by: attracting new research-intensive companies to the region and working to expand those already here; building public and private research capacity; and enhancing the commercialization of research. Activities are focused in biotech/life sciences, information and communication technology, and advanced manufacturing and materials science. Its role is to act as a neutral convenor, facilitator, catalyst and advocate on issues and opportunities related to its R&D mission. TRRA provides dynamic, neutral leadership to help forge a regional consensus on strategic priorities.

11:30 – 1:30 Lunch Break

1:30 PM MaRS Discovery District

Tim McTiernan, Executive Director - Innovations at U of T
and Assistant Vice-President Research, University of Toronto
Address: MaRS Centre, Heritage Building 101 College Street, Suite 320

MaRS (Medical and Related Sciences) is a convergence innovation centre dedicated to accelerating the commercialization of new ideas and new technologies by fostering the coming together of capital, science and business. Located in Toronto's downtown "Discovery District," MaRS sits at the epicentre of one of North America's most concentrated clusters of biomedical research and expertise – literally steps from world-renowned teaching and research hospitals, the University of Toronto, Canada's financial core and the Ontario legislature. MaRS was created in 2000 to capitalize on the research and innovation strengths of the Province of Ontario, and to position Canada for leadership in the highly competitive global innovation economy. MaRS is focused on helping Canadian innovators turn great ideas into great companies – and supporting those companies as they become global market leaders.

3:00 PM BioDiscovery Toronto

Dr. David Schindler, Executive Director
Dr. Chris Riddle, Vice President, Operations

BioDiscovery Toronto is an organization linking nine of Toronto's internationally recognized biomedical research institutions for the commercialization of research. It provides a one-stop shop for companies seeking break-through biomedical and related technologies and expertise.

Thursday, April 12

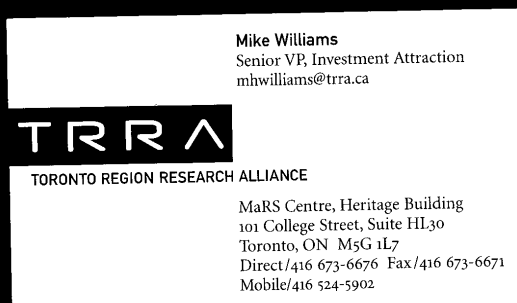
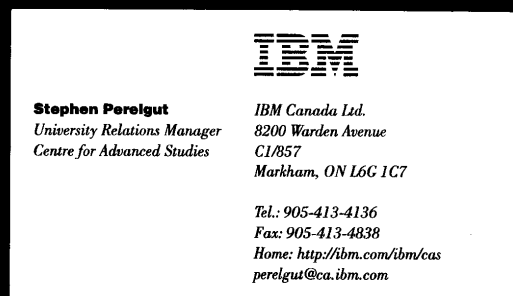
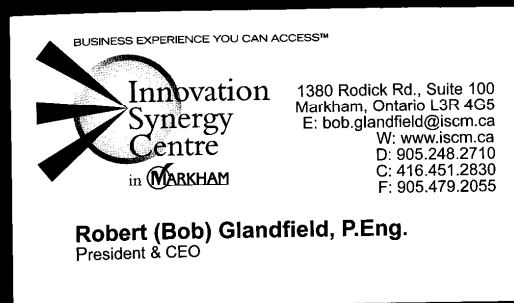
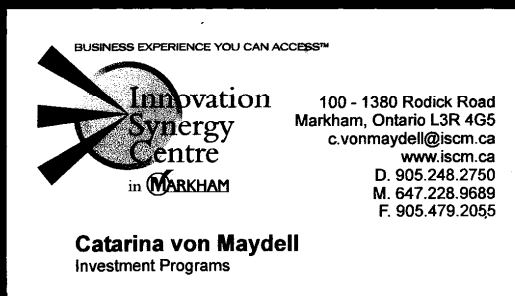
9:30AM **Ministry of Research and Innovation, Government of Ontario**
Brad DeFoe, Manager - Commercialization Network
Alison Paprica, Manager, Performance Measurement & Project Office

11:30 – 2:00 Lunch Break

2:00PM **City of Toronto Economic Development**
Alicia I. Bulwik, Project Director, ICT
Kyle Benham, Director, Business Development and Retention
Address: Metro Hall 8th Floor boardroom

[visit ends at 3:30p]

11. Annex 2: Business cards of contact persons





Innovations at UofT
THE BUSINESS OF IDEAS

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THE BUSINESS OF IDEAS

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13. Annex 3: Members of LOCOMOTIVE visiting party

Elie Brugarolas is responsible for European projects at **The Réseau Universitaire Toulouse Midi-Pyrénées (RUTMiP)**, a wide & regional consortium of research and university entities, socio-economic partners represented by the Chambers of Commerce and Industry, and local and regional authorities involved in higher education and research issues. RUTMiP is an expanding and strong network of 25 regional partners. The core mission is to promote the role of Toulouse universities to the cause of knowledge based economic development and international networking. Recent projects include those involving cross-border co-operation especially with close lying regions such as Catalonia, but also further afield with Alexandria and India. RUTMiP supports academic entrepreneurship and is heavily involved in Framework projects in support of the development of the European Research Area.

Fabienne Fortanier holds an MScBA from the Rotterdam School of Management (RSM), Erasmus University. She currently works on a PhD research project at the University of Amsterdam (UvA) Business School (Faculty of Economics and Econometrics), where she also teaches on International Business and its impact on developing countries, on Sustainable Management and Corporate Social Responsibility, and on Statistical Methods. Ms. Fortanier's research and publications focus on the interaction between multinational enterprises and host governments in developing countries, and on the impact of those business-government interactions on economic growth and sustainable development. Prior to joining the UvA Business School, Fabienne Fortanier worked at the OECD in Paris as a consultant on corporate social responsibility by developing country firms, and on the relationship between foreign direct investment and sustainable development in host economies. She has worked as research associate for the SCOPE Expert Centre on Multinational Enterprises (at the RSM), and continues to coordinate projects for SCOPE aimed at updating and upgrading the databank that documents the strategies of the world's largest corporations.

Irma Patala is a project director at Culminatum Oy in Helsinki and manages the "Knowledge Intensive Business Services Programme (KIBS)" for the Helsinki region. KIBS project activities and business development services are aimed at knowledge intensive business service companies with potential for growth and internationalization. KIBS sector covers technical services including R&D services, legal services, accounting and auditing, advertising and marketing, design, management consulting, and IT services

KIBS project is financed by Uusimaa Regional Council and Employment and Economic Development Centre for Uusimaa.

Sascha Haselmayer, director & co-founder of **Interlace-invent**, is an expert in knowledge and innovation intensive urbanism. Trained as architect at the Architectural Association in London, he is also an expert on design & strategy intensive architecture with experience from urban projects across Europe, Latin America and Africa for non-governmental, public and private organisations. Previous appointment in the Design Innovation Unit of Carillion plc, the leading construction firm in the UK, to develop innovation-driven strategic solutions for several well-recognized projects. Academic appointments include Unit Master for Post-Graduate Architecture & Urban Design Diploma and MA programmes at Greenwich University (until 2003). He has been a visiting senior lecturer in 'Knowledge Intensive Architecture and Urban Design' at the Architectural Association (London) and Copenhagen Business School.

Monica Schofield is Head of the EU Office at **TuTech**. She joined TuTech after 18 years of working as an engineer and R&D manager in industry, large and small, in Sweden, the UK and Germany. Monica is a co-founder and board member of a number of SMEs. She has been engaged as an expert by the Commission on various task contracts since 1993, and is currently serving on Commissioner Potočník's Sounding Board for Framework 7. Monica lectures widely across Europe on project management for European R&D projects and has since 2003 held a German Federal Ministry of Science backed contract to promote best practice in this field.

Axel Wegner has a diploma in Mathematics and Computer Science. Working in computer and internet related companies as well in a consultancy company for international collaborations, he has since 1984 acquired extensive experience in European collaborative research. He has set-up and managed or supported the management of numerous European industry-led projects, especially in the IST area with budgets of up to 20 M€. In addition he was research co-ordinator in an SME computer systems house. Axel Wegner also has worked as an external expert for the European Commission. Since 2002 he has been a project manager at **TuTech**.

Zdenek Kucera works with the **Technology Centre AS CR** as a project manager in the group of Strategic Studies. Zdenek Kucera obtained the PhD degree in the solid state physics from the Faculty of Mathematics and Physics of the Charles University in Prague. He was engaged in research of solids and optoelectronics in the Institute of Physics of the Charles University in Prague for 14 years. In the Technology Centre he works on projects dealing with analyses and studies focused on research and innovation policies.