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TO:	CHAIR AND MEMBERS INVESTMENT AND ECONOMIC PROSPERITY COMMITTEE MEETING ON DECEMBER 02, 2013
FROM:	HARVEY FILGER DIRECTOR OF CORPORATE INVESTMENTS AND PARTNERSHIPS
SUBJECT:	WESTERN UNIVERSITY – IBM INDUSTRY PROBLEM SOLVING WORKSHOP

RECOMMENDATIONS

That, on the recommendation of the Director of Corporate Investments and Partnerships, this report **BE RECEIVED** for information.

PREVIOUS REPORTS PERTINENT TO THIS MATTER

1. Investment and Economic Prosperity Committee, January 28, 2013, *D.A.P.S. Trophy, IBM – Western University Industry Problem Solving Workshop*

BACKGROUND

In February of 2013, the inaugural Western University - IBM Industry Problem Solving Workshop connected industry partners with Western students and faculty in a solution focused environment. Big Night Restaurants and Bars, Autodata Solutions Incorporated, Environics Analytics and the City of London presented real world problems to teams of Western students from the departments of Applied Math, Computer Science, Electrical and Computer Engineering, Math and Statistical & Actuarial Science. The results were excellent, not only were solutions identified, in many cases an implementable working resolution was presented.

This success was furthered by Rosanna Wilcox, Service London Manager and Maggie Weller, project lead from Western, through the adoption of the Ontario Municipal Benchmarking Initiative (OMBI) related challenge as the major programming project of Western's Object-Oriented Design and Analysis course taught by Marjorie Elizabeth Osborn Locke. The class will be investigating novel ways to present and analyze OMBI data.

The City of London supported and participated in the problem solving workshop. Mayor Fontana brought wishes from the City of London at the opening remarks of the event. A $1,500.00 financial sponsorship was provided and suitable problems originating in the Engineering Service Area and the Finance Service Area were presented to workshop teams.

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DISCUSSION

The week of February 17, 2014, Western University will be hosting The 2014 Industry Problem Solving Workshop (IPSW). Project lead Maggie Weller of Western University describes the workshop as follows:

"At its core, the Industry Problem Solving Workshop on data analytics introduces our industry partners to the problem solving capabilities of Western's extremely talented students. The workshop assembles teams of Western undergraduate and graduate students from a variety of departments to craft novel solution strategies for challenging industrial problems." (Appendix A)

Similar to the 2013 event, teams will work with industry experts and IBM data analytic tools to provide potential solutions to the proposed business problems. There is no cost to participate in the workshop and "all industry problem solutions will include details of government (provincial and federal) incentives for hiring students and funding opportunities for the research projects." (Appendix A).
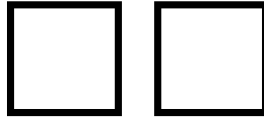
The 2014 event has tripled in size, expanding beyond the initial data analytics focus and into composite research and green technology. This event advances the strategic results of City Council through the support of a Strong Economy and a Green Growing City while also linking to undertakings such as the Fraunhofer Project Centre for Composite Research.

The City of London and the London Economic Development Corporation will be supporting and participating in the problem solving workshop. Mayor Fontana will bring greetings from the City of London to the opening remarks of the event. A $2,000.00 financial sponsorship has been provided and a suitable industry challenge from the City of London's Planning Department will be presented to the workshop teams.

PREPARED AND SUBMITTED BY:	PREPARED AND SUBMITTED BY:
CATHY DZIEDZIC **SPECIALIST, CORPORATE** **INVESTMENTS AND PARTNERSHIPS**	**MAT DALEY** **SPECIALIST, CORPORATE** **INVESTMENTS AND PARTNERSHIPS**
REVIEWED AND RECOMMENDED BY:	**CONCURRED BY:**
HARVEY FILGER **DIRECTOR, CORPORATE INVESTMENTS** **AND PARTNERSHIPS**	**MARTIN HAYWARD** **MANAGING DIRECTOR, CORPORATE** **SERVICES AND CITY TREASURER,** **CHIEF FINANCIAL OFFICER**

Cc:

Jack Adams, Manager, Business Growth and Retention, London Economic Development Corp.
Andrew Kope, M.Sc. Candidate – Computer Science, Western University
Maggie Weller, Industry and Grants Development Officer, Western University
Rosanna Wilcox, Manager, Service London

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Appendix A:

Western University Industry Problem Solving Week

At its core the Western University Industry Problem Solving Week, introduces our industry partners to the problem solving capabilities of Western's extremely talented students.   The workshop assembles interdisciplinary teams of undergraduate and graduate students to craft novel solutions strategies for challenging industrial problems.   In 2013, 43 Western students worked on six industry problems, from a wide variety of sectors, they developed solution strategies with realistic time lines and funding opportunities.

"The workshop environment is focused on finding solutions and the results deliver outstanding benefits to our local economy and all the participants. Options and actions are created for the businesses and business owners meet potential new employees, while students get hands on experience and the chance to meet possible employers..." – London ON Mayor, Hon. Joe Fontana.

Following the success of the 2013 workshop on Data Analytics the 2014 Industry Problem Solving Week will be composed of three workshops; Data Analytics, Composite Materials Research and Green Technology. The workshops are held during the February reading week; for four days a team of students will work to devise a solution strategy for a challenging industry problem.   Each team will be assigned a faculty mentor to provide guidance and direction throughout the week and each team will have access to cutting edge data analytics software from our founding partner IBM.

The students have the unique opportunity to network with other students outside their discipline and with industry representatives. They can also highlight their capacity to achieve results and fine tune relationship building skills in an environment that does not impact their academic record.

Examples from DAPS 2013 include:

Big Night Restaurants and Bars wanted an idea for how to improve their online ordering system using customer purchasing data. Using machine learning algorithms, their team of students developed a 'virtual waiter' to recommend additional, complimentary items to customers' orders. The team presented a prototype of their 'virtual waiter' using simulated order data, winning the 2013 trophy.

Environics Analytics had a much less clearly defined problem; they wanted a numerical characterization of how urban a given Census Canada Dissemination Area is, however gave no indication of the criteria which might determine urbanity. Their team used a deep learning algorithm to derive urbanity scores based on highly urban and highly rural examples in a small training dataset. Following the workshop, Environics Analytics considered implementing the solution strategy presented by the team in one of their commercial data products.
More details on the challenges from the 2013 workshop and the upcoming 2014 problem solving week can be found on the IPSW website. **http://ipsw.uwo.ca**