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Mercredi 16 septembre 2009

**Standing Committee on
Estimates**

Ministry of Research
and Innovation

**Comité permanent des
budgets des dépenses**

Ministère de la Recherche
et de l'Innovation

Chair: Garfield Dunlop
Clerk pro tem: William Short

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ASSEMBLÉE LÉGISLATIVE DE L'ONTARIO

STANDING COMMITTEE ON ESTIMATES

COMITÉ PERMANENT DES BUDGETS DES DÉPENSES

Wednesday 16 September 2009

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The committee met at 1550 in room 151.

MINISTRY OF RESEARCH AND INNOVATION

The Chair (Mr. Garfield Dunlop): Okay. We'll reconvene the meeting. We're here to resume the consideration of the estimates of the Ministry of Research and Innovation. There's a total of three hours and 50 minutes remaining, and when the committee was adjourned, the third party had finished their 20 minutes, so we'll be moving on to the government members. Again, I want to welcome Minister Milloy and all the staff of the Ministry of Research and Innovation here today. So we can now start with Mr. Delaney and the government members.

Mr. Bob Delaney: As we are approaching the week-end of the end of Ramadan and the start of the Eid celebrations and as I happen to be flanked by three of my Muslim colleagues, I'd just like to begin by wishing everybody Eid Mubarak, and also to note that my replacement for the SPA in the Ministry of Research and Innovation is sitting right beside me, Dr. Reza Moridi. I'd just like to put on the record what a fine, fine person this man is. He brings to bear his PhD in physics which I am sure will keep him challenged and stimulated. So, in fact, the estimates today features a gathering of the physics caucus of the 39th Parliament and we, the two members of the physics caucus, are always glad to be here.

I think today I'm going to talk a little bit about the emerging digital economy in Ontario. In the course of the time that I was privileged to serve as the parliamentary assistant and attend some of the events that the ministry focused on, one of them that came near and dear to my heart, because I'd spent time since the mid 1980s involved in software development, was to find to my surprise that Canada is short some 50,000 software development specialists. This always struck me as incredible. If there's one topic that if, as a young man or a young woman, you'd like to study in school and think to yourself, "Gosh, when I graduate I want to earn really good dollars. I want to have great opportunities for promotion. I'd like to be able to travel the world. I wouldn't like there to be any professional barriers to me practising my trade or my profession and I'd like a lifestyle that really enables me to enjoy myself," I've always been mystified as to why more people are not

choosing software development because it offers all of those things.

I can remember during the years when, as one of Microsoft's MVPs—I was one of the first in Canada—every year they would take us down to Redmond, Washington, for the annual MVP summit. You got a chance to see, in Redmond, what life is actually like if you work in the digital economy and in particular, in this case, software development. I remember on my first trip there—aside from seeing the big chunk of the Berlin Wall that Bill Gates bought and erected on the campus in Redmond—that at one point I was a little thirsty and I saw what looked like this soft drink vending machine. I was looking at it and I thought, "Well, where do I put my money in?" This guy walks up and he just opens it and reaches in and pulls out whatever it was he wanted to drink. He looked at me and said, "Oh, that's how it works here at Microsoft. If you want something, just go and take it." Initially I did, rather reluctantly, and a lot of the other people who had been there more often than I had said, "Oh yeah, absolutely. That's pretty much how they treat you in the software biz."

We look at some of the jockeying back and forth for position in the corporate world, and what kind of office am I going to have? You have an office that offers you quiet and a place to think if you're in software development. You work in what are considered to be very good conditions and you're extremely well taken care of by your company. It's intellectually stimulating work, and the rule of thumb in that trade is in any given calendar year you should be devoting at least 10 days of effort to upgrading your skills in professional development.

In fact, to bring it back close to the area in which our minister serves, I can remember chatting with a lot of the Canadians—and there are a ton of Canadians all throughout the software development business, in particular with Microsoft in Redmond—and I remember chatting with one who had done a lot of recruiting. He said to me at the time, "When it comes to finding good people to work in software development, one of the first places we always look is Canada." I'd heard several times an analogy that goes a little bit like this: "The University of Waterloo is to software development what a Harvard MBA is to investment banking." The top companies in software development all descend on Canada, and they're looking at our universities as the place where they can find what they consider to be their raw material: the very best

people who can write code, manage projects and see a project from inception all the way through to fruition.

In this vein, I watched software projects go through during the time I was a beta tester. I think the key benchmark is hitting your delivery date. In most cases, by the time you get a project through to the point where you've got your beta 1, your beta 2 and you have what's then called a "release candidate," a piece of software that's essentially feature-complete, at that point, when it's put back out into the user community and you're there to beta-test it and run it through its paces, what you have to find is what's called a "showstopper." If you can find something that crashes a system and you can reliably repeat the crash, then you've got something.

But throughout the beta process, as beta testers we would take a piece of software—in my case, my product was Windows—and our job was to give it a good shake and see whether or not we could find a flaw in the system or in the early stages of the beta suggest a feature or a tweak that may not be there. I can look at Microsoft Windows today and count up about a dozen features and say I contributed to the development of these things, particularly in mail merge.

It's now a very different world than what it was when I was originally asked to be a beta tester. Back at that time, I was having an issue with Word version 2 and Excel version 3. And Access as it exists today was simply not a product; they didn't have a relational database. I was trying to do a mail merge with about 8,000 or so names. I called up what was then free and unlimited tech support and a guy on the other end said, "Just one moment, Mr. Delaney." I could hear the tippety, tippety tap as he was querying his database. In the end he said, "Sir, the product wasn't designed to do what you're doing. How is it that you're managing to do what you're doing?" So I explained what I was trying to do and he said, "Well, it just wasn't built to do that." He said, "Can I call you back?" which I thought was a little strange because I called to ask the question. I said sure, and I gave him my number and all that.

He called me back and said, "We'd like to ask you whether or not you'd like to beta-test this product in its next version." I said yes and then I moved up to beta-testing Windows. It gave you a real perspective into some of the challenges that we face here around the development of electronic systems in the province of Ontario, in defining what exactly your product is going to be at the outset.

A lot of the discipline in software development, which is something that we'll be dealing with in some of the support that MRI has given, is in deciding what this piece of software is going to do. You sort of have to close it off and say, "We've decided what it's going to do and now we'll build it."

For example if we, at our age, look back to what games were like when we knew computer games, we'd be thinking of things like Pong, which almost any beginning programmer now can do in about an hour and a half of code writing, Pac-Man and Space Invaders. Those

things in the 1980s on an eight-bit platform have certainly given way to what the Ministry of Research and Innovation is now tackling, which would be very complex products that involve virtual reality, elaborate sets, voice/video streaming, Internet-linked gaming and things like that.

The products that a game maker is building today are very, very complex, interrelated pieces of software that are often played by overlaying them with Internet connectivity to allow a TCP/IP connection or a broadband Internet connection to be able to connect you with a player who could be half a world away. Even in simple applications, games like chess and bridge, what you've got to have at the server level is a server capable of managing hundreds or thousands of simultaneous games, processing the games and being able to keep track of who's playing whom, what information you store and what the state of the game is should you choose to adjourn the game.

1600

So what used to be an exercise in sitting down to wrap the mind of one person around the building of a game is now something that's very much a team sport and is practised by, generally, young men and women for whom this is really a physical ordeal. They'll sit down and work for upwards of 10, 16 hours at a stretch. I can't compete in that vein. I'm just a weekend code jockey, but still, you sit down, you're working on a little problem and before you realize it, you think to yourself, "Jeez, I'm getting a little tired." You look at your wristwatch and think, "It's 2 in the morning. Where did the time go? I've been here for four and a half hours" working on whatever the particular problem is. As well, the toolset that people are using now is, at the same time, more powerful but also involves a much steeper learning curve.

About seven years ago, Microsoft introduced a new set of tools called the .NET platform that enabled application developers to have access to enormous libraries of prewritten code. Rather than figuring out how to talk to the hardware and how to do what are called API—applications program interface functions—you could actually learn how to use the .NET libraries and in a line or two of code you could do what might otherwise have taken you days or weeks of work and hundreds or thousands of lines of code to do. You're also using a standard that everybody else is using, which enables much more effective debugging of a program and much quicker development.

In this vein, Chair, I was very interested when in July Premier McGuinty announced that one of the world's leading game developers, and that's Ubisoft, whose work I very much admire, is coming to—and they could choose anywhere in the world. This is a company that everybody wants a piece of because the kind of lifestyle that I described for the people who work there certainly exists for game developers. If you can imagine the kind of person, who would generally be a young man, who would be working on the development of the game, it's an interesting environment to work in.

They could choose to go anywhere in the world, but the place they chose was Ontario, and specifically Toronto, to establish a major videogame studio, which in that field is very much like saying that the world is coming here to make movies, which they do, and all of the ancillary support services that the movie people can find here, in making a videogame you're going to need some of those things. You really need them to the max because you're doing much the same thing. You've got to shoot a scene and you've got to connect the scene with code to the process of doing the game so that in the course of doing the game, at some point the player or players are going to see that scene and then they have to navigate through it—something that a conventional cinematographer doesn't have to do. He shoots the scene, the scene goes in sequence, they put in the background music and whatever other special effects, and then they move on to the next one. But in doing a game, when the scene you've shot is being displayed, you've got to be able to do something interactively with the scene that you've shot, which is probably in order of magnitude more complex in many ways than simply shooting a scene for a movie.

It's not surprising, then, that that's going to create some 800 high-quality jobs over a span of about 10 years. The thing about attracting a firm like that is that you often, as it puts down roots, create the critical mass for so many others to come here and say, "That's where I can find the kind of programmers who have the experience in doing just that."

What I'd like to ask the minister, with this somewhat extended preamble, is what MRI is doing to—

The Chair (Mr. Garfield Dunlop): We've got one of those planned, too.

Mr. Bob Delaney: —support talent and creativity in what I, very frankly, found—I'm sorry if my enthusiasm for the field has kind of shone through. What's MRI doing to support our talent and creativity in that very exciting field?

Hon. John Milloy: Thank you very much, Mr. Delaney, for your comments, which I think highlighted some of the good-news stories of what's happening in our province, and some areas of growth. Really, much of what we've been talking about here at estimates as a government is, where are the areas of growth? Where are the areas where jobs are going to be in the future?

Certainly, I think you hit a very important area when we speak about Ontario's, if you want to call it, entertainment and creative industries, the gaming industry. I'm told that estimates are that it's going to generate almost \$12.2 billion of our domestic product this year. It's a pretty significant part of our economy, and in the past 10 years employment in this cluster has grown at twice the rate of the overall economy, creating over 80,000 new jobs. So it's a very important part of the Ontario economy and a part of the future moving forward—not simply games, but digital media in general.

At MRI, we've invested about \$3.5 million in funding to digital media research projects that will, I think, develop tomorrow's cohort of skilled digital media and

high-tech workers. This funding support for digital media is part of a \$37.4-million investment made through the Ontario Research Fund in September 2008.

I mentioned yesterday, in outlining our support and in talking about our programming, that I think often the best way to explain it or communicate it is to give examples of some of the success stories of where we're partnering with institutions and the work that's going on. You referenced the University of Waterloo—of course, near and dear to my heart as I'm one of several representatives from that community. Members may know that the university has branched out with a satellite campus in Stratford whose whole focus is on the area of digital media.

I think it's worth referencing that the province came to the table in March 2008 with an investment of \$10 million to help the University of Waterloo create this new campus, which is focused on global business and digital media. The aim of the campus is to generate the next generation of digital media researchers, entrepreneurs, products and services by bringing together Stratford's renowned strengths in arts and culture and, of course, the University of Waterloo's outstanding work in the area of technology. Areas of digital media research and development: The new campus will include such areas as mobile, wireless sound, video gaming, web design and animation.

Closer to home, we can also reference the work that's going on at the Ontario College of Art and Design. They've undertaken a digital futures initiative, which is comprised of a digital media and interactive design lab that will bring together students and private sector partners from a cross-section of industries. The lab will graduate students who have business and computer science knowledge as well as industrial design and artistic content creation skills.

We are investing \$9 million in OCAD to train this next generation of digital media designers and entrepreneurs. OCAD's plan is to use these funds for this initiative and create this digital media and interactive design lab which, as I say, will bring together students as well as private sector partners from a cross-section of industries.

Again, here's a case where we have two outstanding Ontario institutions that are partnering with industry to create individuals, graduates, who will have the skills needed to participate in the economy and move forward.

Mr. Delaney mentioned Ubisoft, and I'd be remiss to not reference that. Now, Ubisoft actually—the funding for that came from economic development and trade, but as I believe I referenced several times yesterday, we of course work very closely together. We were all pleased that Ubisoft chose Ontario because of our talented workforce, our competitive tax environment and strong ties with the film industry. Ubisoft will be investing over half a billion dollars in a new studio which will begin operation later this year.

The Chair (Mr. Garfield Dunlop): Just a few seconds, Minister.

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Hon. John Milloy: So there are some examples of how our ministry is working both with institutions and

companies and, through them, all sorts of partners to lay the ground for this very exciting industry which really represents a big part of the future for Ontario.

The Chair (Mr. Garfield Dunlop): Thank you very much, Minister.

The Vice-Chair (Mr. Robert Bailey): We'll now move to Mr. Dunlop from the official opposition.

Mr. Garfield Dunlop: Thank you very much, Minister. I've kind of got a long preamble as well, but I didn't expect I'd get a chance to—

Interjection: It's going around.

Mr. Garfield Dunlop: It's interesting that you're here today as a dual minister. I know that the questions we're asking are really on innovation and research, but you've got an exciting ministry when you can deal with that along with universities.

You've mentioned two or three times some of the work you've done with Lakehead, U of T, Waterloo and these things, and they are exciting when you hear some of the projects and initiatives that are taking place.

I wanted to zero in on an exciting project in Simcoe county, and it's the expansion of Lakehead University, a southern campus. I wanted to put on the record first of all that the excitement of it is that Simcoe county, or central Ontario, doesn't—though they've got great courses with university partnerships, the graduating rates in central Ontario are around 13%, people who actually hold university degrees as compared to the provincial average of around 25%. So I wanted to put a few things on the record, and then really what I'm going to ask you in the end is for the staff of MRI to look carefully for potential proposals and projects where research and innovation could help a community like Orillia and Lakehead University.

I wanted to put this on the record and I appreciate your patience as I read through it:

"In January 2005, Lakehead University's board of governors agreed that the university should pursue a strategic objective to create a branch campus in Orillia. In September 2006, the Orillia campus opened its doors at Heritage Place with a charter class of 131 students. The following year enrolment grew to 308 students, then 437 in 2008, and 800 students currently."

One of the neat things as we work through this satellite campus—we visited some of the other satellite campuses in Ontario, and one of the exciting campuses I noticed was the one in Brantford from Wilfrid Laurier, because we're actually talking to Wilfrid Laurier as well.

"There are a host of reasons why the objectives make good sense for Lakehead University, for Simcoe county, the province of Ontario, and Canada.

"For Lakehead University and Thunder Bay, Lakehead-Orillia will

"—contribute to the university's sustainability as a comprehensive university with a national reputation for value-added undergraduate education and a growing reputation for research excellence"—this is why I really wanted to talk to MRI today;

"—provide substantive growth of Lakehead University's undergraduate enrolment;

"—increase revenues to support both the Thunder Bay and Orillia campuses;

"—enhance the university's ability to attract students from the GTA (greater Toronto area) who would not consider going to Thunder Bay;

"—increase opportunities for innovative degree programming;

"—increase distributed learning opportunities and optimize use of Lakehead's e-learning capacity;

"—provide a physical and political presence in southern Ontario and improve the visibility and marketing of Lakehead University;

"—establish a broader fundraising base.

"For Simcoe county, Lakehead-Orillia will

"—provide the population with the skills and knowledge required to make the transition to a knowledge-based economy;

"—provide the means to raise the percentage of university graduates in the county from the current 13% ... to the provincial average of 25%...;

"—create accessible university education to a fast-growing population for which there are limited options in the immediate area;

"—provide attractive, high-quality post-secondary education programs that will attract people from across southern Ontario and further afield;

"—promote research and development initiatives in social and environmental sustainability;

"—contribute to the economic growth of Simcoe county through the creation of direct and indirect jobs;

"—establish an important public facility for Simcoe county;

"—be a demonstration project of sustainable development and environmental management—the first LEED platinum campus in Canada;

"—be an active communal participant, responding to the needs of the area, creating new opportunities for business and the wider community.

"For the province of Ontario, Lakehead-Orillia will:

"—contribute part of the solution to provide spaces for the anticipated increases in the number of students from the GTA trying to find a university within commuting distance. Orillia is readily accessible to the northern GTA (e.g. Vaughan, Newmarket, Aurora, Alliston, Bradford, and Barrie) and reverses the commute along both the Highway 400 corridor and the GO system;

"—meet the needs of students with degree programs of known quality delivered by an established university thoroughly familiar with the requirements of existing quality assurance frameworks;

"—meet the needs of these students in a highly cost-effective manner. It is less expensive to expand the services of an existing institution than it is to establish a new one, especially, an institution such as Lakehead-Orillia which is now entering its fourth year of operation and has already received significant financial support

from the city of Orillia, Simcoe county and a growing list of donors.

“For Canada, Lakehead” campus “Orillia will:

“—provide the population with the skills and knowledge required to make the transition to a knowledge-based economy;

“—provide research on social and environmental sustainability;

“—be a demonstration project of sustainable development and environmental management,” the first LEED platinum campus in our country, as I mentioned earlier;

“—be an active community participant, responding to the needs of the area, creating new opportunities for business and the wider community;

“—continue to provide aboriginal people with access to university programs and services.”

I want to put on an example of some of the research that’s happening there already at this particular campus.

“On Orillia’s research contribution:

“This fall, three Orillia campus researchers will be funded \$165,000 over the next two years by Environment Canada and its Lake Simcoe clean-up fund (LSCUF) to study the role of wetlands as a nutrient buffer.”

Dr. Nandakumar Kanavillil, principal project investigator, Orillia campus, with co-investigators Dr. Sreekmari Kurissery, Orillia campus, and Dr. Mary Thornbush, and Dr. Peter Lee, biology, from the Thunder Bay campus, “will focus their study on Mill Creek and Victoria Point wetlands in Orillia, Ontario. These areas will be extensively sampled to monitor their roles in the reduction of nutrient influx into the northwestern part of Lake Simcoe, focusing particularly on total phosphorus and phosphates. The study will involve the collection and analysis of both water and sediment samples, in addition to plant and invertebrate species from different localities of these wetlands for a period of two years starting from this fall. In selected areas of the wetlands, wild rice seeding experiments will be carried out to test their growth-induced nutrient reduction in the water column and sediment. The proposed study is therefore expected to result in the evaluation of: (a) the existing wetlands as nutrient buffer zones, and (b) the ability of wild rice plants to reduce nutrient concentration in the water, thus reducing their release into Mill Creek and the Lake Simcoe.

“Dr. Nanda Kanavillil notes that ‘this is an excellent opportunity for the faculty in Orillia campus to shoulder the responsibility of protecting Lake Simcoe and its watershed by minimizing the phosphorus pollution. This being the first major environmental research funding received at Orillia campus, we are all very happy and excited to go out and start working.’

“The Lake Simcoe clean-up fund was established to provide financial and technical support toward projects that will improve the water quality of Lake Simcoe. The fund achieves this goal by supporting the implementation of high-impact, priority projects. These include projects aimed at reducing phosphorus inputs, rehabilitating habitats to achieve nutrient reductions, restoring the cold-

water fishery in Lake Simcoe, and enhancing research and monitoring capacities deemed essential for the restoration of Lake Simcoe and its watershed. The fund also supports studies that help clarify the current conditions of and help track improvements in the water and environmental health of Lake Simcoe.”

This particular project on the cleanup of Lake Simcoe fits very tidily into the whole fact that the government of Ontario has proceeded with the Lake Simcoe Protection Act and the Lake Simcoe protection plan, and the government of Canada has provided \$30 million for the cleanup of Lake Simcoe as well. So I think, up in central Ontario, the water quality in Lake Simcoe is a very, very high priority, and we’re already seeing improvements made as a result of investments in these areas.

1620

But really what I was trying to get at today, Minister, was to say that the project in Orillia is moving ahead quite nicely. I know right now—I just want to put this on the record very briefly, because we’re not talking colleges, training and universities—the federal government, through their knowledge-based fund, has provided \$13 million in capital for the new LEED platinum campus. Minister Clement announced that a few weeks ago. But here today, I was wondering if we could get any comments from yourself or from the deputy or anyone here about how you feel the Lakehead campus could fit into the priorities or some of the programs offered by the Ministry of Research and Innovation.

I know I’ve rambled on a lot here, but I was wondering if you could comment on that and if there is a way we could set up a closer working network of people to work with the Lakehead Orillia campus on programming.

Hon. John Milloy: Sure. Thank you for the question. I think you correctly pointed out there are some aspects of this—of course, I’m in the awkward spot that I actually wear two hats. There are some aspects where, if I was called for TCU, we could take the conversation in one direction, but as the focus today is MRI, we’ll just talk about the support for research that goes on at Ontario’s universities—and Ontario’s colleges. I always like to underline that.

We have a number of funding mechanisms through the Ontario Research Fund. We have a research infrastructure program and a research excellence program; they’re just two of the sort of flagships. They are based on an arm’s-length peer review panel system whereby applications are assessed, and we look for excellence in terms of coming forward. We’ve talked before at this committee of our priorities, and obviously, in the environmental field and the life sciences field and digital media, we’ve been able to identify excellence across the board, across the province.

Yesterday I spent a few minutes in one of my responses talking about how it’s not always about the centres that immediately come to mind—the Torontos, the Waterloos, the Ottawas. Lakehead’s Thunder Bay campus has participated in a number of research initiatives where they’ve come forward with areas of excel-

lence. Certainly, we're always happy to work with researchers to point them in the right direction and make sure their research proposals that come forward are given full consideration. As my predecessor always used to say, we like to take the political science out of science. These are done by peer review panels, and the recommendations that come forward are based on the best science and the excellence moving forward.

As I say, I know there is research that is going on in institutions across this province, including Lakehead, which have been recipients of these types of awards. There is other programming that also comes forward from the ministry for universities and colleges. I mentioned the early researcher awards yesterday, a post-doctoral fellowship program. These are shared by all institutions because we have excellence. Many institutions, the smaller institutions, have niche areas, and obviously you've talked about the environment around where the work is going on and, of course, the ability to capitalize on those. I'm thinking, of course, in the Thunder Bay example, of the forestry industry and related studies that are going on there and the work that's there.

I don't know, Deputy, if you want to add to my answer.

Mr. George Ross: Yes. We've been very active in working with Thunder Bay on their research program. Over the last several years we've seen a very concerted effort put in place by Lakehead to really develop a research strategy. There are some key areas where they are focusing their activities and their applications to various funding programs. In particular, the area of the bioeconomy is very big for Lakehead, and we work very closely with them on that strategy. In 2006, I believe the year-end, there was an investment of \$8 million to support two new research chairs in bioeconomy-related fields. So they are focusing their research activities there. They've been successful in a number of competitions that the ministry has run and they will continue to have access to those.

For example, in our research infrastructure program, which is the part of the Ontario Research Fund that supports capital—so equipment and building of laboratory space—they've had 13 projects for over \$10 million supported over the last several years. Similarly, when it comes to research excellence, which is the operating support, close to \$9 million, over \$8.5 million, has gone into 30 projects there since 2003. They are doing a good job in focusing their research activities and developing capacity in the institution to be able to compete in these granting processes that we run.

Mr. Garfield Dunlop: I appreciate those answers. I probably wouldn't even have put this on the record, and I didn't, for one second, mean to put you in any kind of an awkward position, Minister, because of your dual role, but you had mentioned the research grants yesterday at Lakehead and U of T, and I find them fairly exciting. I guess I'm more motivated and excited about this project than other people in the room would be because it's

happening in my backyard. The cranes are in this field right now, and they're building a \$51-million building as phase one. It is exciting for the community, and there's a lot of support from it.

I just hope that as we move forward, we can hope that the partnering through TCU and MRI can be actively involved. I think there are going to be very good news stories. One of the exciting things is, these projects tend to bring a lot of interesting characters along with them, people who get on side and like to fundraise and come up with ideas for programming; they're all coming to the table now as we speak, so there's certainly a lot of excitement. I wanted to have that on the record at some point during our deliberations. Thank you for those answers on that, unless you had anything else to that that you could say on it.

The Acting Chair (Mr. Robert Bailey): You've got three and a half minutes.

Mr. George Ross: We focused, Mr. Dunlop, some of our answers here on our research funding programs, and the other part of our ministry mandate is to support the growth of innovative companies and to support entrepreneurs.

Yesterday, the minister mentioned the work we've done to review our commercialization programs. The goal of that review and the new commercialization innovation network that will be established in the province is really to enhance the ability of innovators that come out of institutions like Lakehead or come out of local activities to get support for growing their businesses and taking their businesses forward and receiving capital funding. So the types of activities that will emerge out of that campus and out of Lakehead, as it fills its research strengths, will also be supported by support for commercialization activities. That's where the research activity that's supported by the ministry and by the government turns into jobs and companies. Beyond just the funding of the research, we also will have a program in place to support the entrepreneurs that you have locally there as well.

Mr. Garfield Dunlop: Yes, and that's very, very positive. I think in some cases, in government, we tend to look at ministries and we attack the worst things in them or we come out with the headlines, but quite often we come up with a ministry like MRI, and there are some exciting things happening here. Jim and I were both saying, it's not easy questioning this particular ministry because there are some fairly good news stories happening here. We want to make sure that we acknowledge that too. There are other ministries we're not quite as happy with. But, anyhow, I do appreciate—

Interjections.

Mr. Garfield Dunlop: We've been very pleased in Simcoe county to have had Georgian College grow their university partnership programs. I know, Minister, you're up for an announcement. We've had some great support from all different political parties with that programming, going back to yourself and Dianne Cunningham etc. But the southern Ontario campus of Lakehead is quite

exciting, and we've really got into it when we started researching this out a few years ago, and went, as I mentioned earlier, to see what they'd done in Brantford with Wilfrid Laurier's campus in Brantford, Ontario. I think it basically revitalized the downtown. There are some very positive things happening, so I appreciate very much your comments on this—

The Acting Chair (Mr. Robert Bailey): Thirty seconds.

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Mr. Garfield Dunlop: Really, what I'm asking for here is for you folks to take a serious look at this Orillia campus down the road. I'm happy to give you a tour, happy to talk to all the principals in it. It's very exciting for the future of the community.

The Acting Chair (Mr. Robert Bailey): Thank you, Mr. Dunlop.

The Chair (Mr. Garfield Dunlop): Okay. Third party, you now have 20 minutes.

Mr. Michael Prue: Thank you very much. I have no shopping list wish list and, therefore, hence no preface, so let's get right into questions.

Over \$55 million of the ministry's operating budget goes to the commercialization and innovation network support program. It's probably, if not the biggest, at least one of the biggest line items in the ministry budget. Can you give me some examples of what this is funding?

Hon. John Milloy: Sure. Part of our commercialization strategy involves our partnerships that we have with a number of different regional organizations and some provincial organizations. The ones that come to mind are MaRS, very close at hand, and the Ontario Centres of Excellence, who do very important work in terms of linking entrepreneurs with researchers, researchers with ideas with entrepreneurs etc., so it's a network across the province.

Yesterday, we had a chance to talk about some of the reforms that we want to bring forward and make sure that that network is more accessible. I think the deputy, in his answer to Mr. Dunlop, spoke a little bit about the direction we're going.

Just to give you a little more specifics, I'll ask officials to perhaps provide you with a little more of the technical side of things and where some of the money goes.

Mr. George Ross: I'm going to ask our director of commercialization, Bill Mantel, to come to the table, Mr. Chair—

Interruption.

The Chair (Mr. Garfield Dunlop): I'm not sure if somebody's coming through the wall or not.

Mr. George Ross: —if that's okay. Mr. Mantel is our director responsible for our commercialization activities. This is Bill Mantel, director of commercialization programs for the Ministry of Research and Innovation.

The best way, Mr. Prue, to describe the programs that support this commercialization line in our budget is really to think about a continuum of research, technology development, business acceleration and access to markets. This is the way we think of the innovation eco-

system in Ontario where ideas that emerge out of research institutions, teaching hospitals or in industry for that matter—in research labs in industry—find their way into products and services that require development, demonstration and support to get them commercialized and turn them into companies.

We have a number of programs in the space that support technology development. For example, our Ideas to Market program is one that I mentioned. I mentioned this in some of the answers yesterday, where we implemented something called the investment accelerator fund. This was a seed stage capital program that went into small start-up companies that were struggling getting their first capital support.

As a companion to that, we've also implemented a business mentorship program. We deliver these programs through our regional innovation partners. So our flagship program—the Ontario Centres of Excellence is one of those partners, MaRS here in Toronto, and there's a series of these organizations across the province that support this.

The business mentorship program is really to provide business support and seasoned experience in growing businesses, to help them with those small companies.

There are a number of other initiatives under that technology and product development field that we deliver as well to help these companies. It's really about grooming the products and the technology and getting them into a commercial state.

All of this leads to the ability of these companies, hopefully, to compete on the global stage, to sell their products and get customers. This is where our venture capital programs come into play. This is outside of the specific line item you're talking about here.

The point I wanted to make is, as we deliver these programs, we continually think about a business ecosystem that starts with the idea and the knowledge that's created by the research investment we make and turns into access to global markets.

What I'd like to do is turn it over to my director, Bill Mantel, to give you a little bit more detail related to your specific question.

Mr. Bill Mantel: Sure. Thanks, Deputy. I'm Bill Mantel. I'm the director of the commercialization branch for the ministry.

Maybe the way to approach this is—just picking up on the deputy's discussion about a continuum, we fund research, and I think people understand that. Certainly more and more, we're doing a relevance test on that research to make sure that it is aligning with key Ontario sectors. That's an important feature that we've been implementing over the last couple of years.

We've been working very closely with the institutions to try to move the technology development inside the institutions, closer to where companies can pick it up. For example, through the research commercialization program we've been providing proof of principal funding. That's really a critical feature of what we're doing because, prior to that, in order to get the technology

moved beyond the research phase, we had to create a company. It usually wasn't very well funded, so we had a crop of what I would call weak start-up companies coming up because they just wanted to move the research a little bit further on down the pipeline. By putting in that proof of principal funding we have—I'd have to double-check the numbers—probably well over 100 proof-of-principal projects where we've taken a research idea, where we've checked the market first to see if it has market potential and then invested a small amount of money to de-risk it, to increase the likelihood of a company being able to take it up into an existing product or being able to start off a new company as a foundational product. That's at the very early stages.

The second thing we're doing is just increasing the whole effort around industry/academic collaborations. We're trying to move those ideas into companies, so investing in the tech-transfer capacity at institutions is a part of that and making the whole tech-transfer process work better. In the last couple of years, we've had over 340 companies involved in industry academic partnerships and about 1,600 research projects in that area. That's the whole of industry/academic collaboration, which is pushing research discoveries out of the institutions into companies but, likewise, helping companies solve problems for projects that they're already developing. That's a very important feature of the whole commercialization activity.

Once we get beyond that, though, and we start really focusing on companies, we have a program, as the deputy said, the business mentorship and entrepreneurship program, where there are a number of things that we'll do. First of all, we'll find capable entrepreneurs who can act as mentors to start-up companies. We'll provide market research to help them understand what the best target market is to start with, what the best pathway is to the market. We'll help them find capable CEOs and/or experts for those companies, trying to ensure that these companies have far more sophisticated business strategies when they're coming out of the gate, and that does a couple of things. It helps them attract good CEOs, first of all, but secondly, it helps them attract private capital.

That's part of the whole effort in terms of dealing with a capital shortfall. If we have companies that are more investor-ready, they have a higher likelihood of being able to attract growth capital.

Following on from that, as the deputy was already talking about, we have the investment accelerator fund, which is our seed capital program. That was put in place because there was a very clear gap in the funding part of the capital continuum. Really, that is about putting the first half-million dollars into these promising start-ups, and we are looking for the ones that are very high-potential growth companies.

So far in the last two years, we've made about 20 investments in those companies. If I just look at the last 10 investments that we made, there were over 250 jobs just in those companies. Over the next three years, those companies alone, based on the business plans that we

looked at, would project to double that employment figure.

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But I think what's most important is that by putting the capital into those companies, what we're looking for is, will they attract the private follow-on capital? That goes to some of the principles the deputy was talking about. We make these investments based on market principles. So far, many of those companies have already received a second tranche, and we're only two years into it.

So that's the mentorship, combined with the seed-stage investing, and from there we're hoping that the private capital markets will take over. There again, through the venture capital fund and through the emerging technologies fund, we're trying to increase those sources of capital and the number of companies that are getting funded.

That's a bit more detail on the various steps that we're trying to take, filling in all the gaps from the research idea to the marketplace as much as we can.

Mr. Michael Prue: You're throwing around a great number of numbers. I'm getting a little lost among all the funds; no doubt everyone in the room is, probably, save and except you. But all of the funds and all of the different subprogramming—and you've talked about ideas to market, then you talked about 100 projects, then you talked about 340 projects, then you talked about 1,600 projects, then you talked about the last 10 projects. Can you give us a list of who has money? Maybe then I can understand. I'm looking at \$55 million and 1,600 projects. You're talking about very small amounts of money going out to these organizations, conceivably.

Mr. Bill Mantel: Yes, in some cases they are very small amounts of money.

Mr. Michael Prue: Have 1,600 groups received money?

Mr. Bill Mantel: Sixteen hundred projects?

Mr. Michael Prue: Yes.

Mr. Bill Mantel: No, I don't have that list of projects with me right now.

Mr. Michael Prue: Of 340 projects? I'm having a difficult time understanding. You're jumping from one program to another program, one subprogramming to another subprogramming, one group of projects that is being funded to another group of projects. We're trying to get a handle here—at least, I'm trying to get a handle, on—is there a list? Maybe I can understand that better.

Mr. George Ross: Perhaps I could just provide an answer to this. Your specific question related to the commercialization programs of the ministry: I believe it was \$55 million.

Mr. Michael Prue: It was \$55 million.

Mr. George Ross: Right. So that money goes out into programs in some program envelopes or program packages. The business mentorship and entrepreneurship program is one.

Mr. Michael Prue: How much does that get, out of the \$55 million?

Mr. George Ross: I think that's detailed on page 32 of the briefing book. Perhaps, Bill, you can help me out with the detailed numbers here. If I may, I'll just run through the major program components and we can circle back on the numbers.

Business mentorship and entrepreneurship program, the accelerator fund, the Ontario Centres of Excellence, the Ontario commercialization network—so, as I mentioned, those are a number of organizations around the province. I believe there are 30-some-odd, Bill; is that right? Thirty regional innovation networks?

Mr. Bill Mantel: There are less than that; about 12.

Mr. George Ross: The Ontario research commercialization program, which is targeted at tech transfer offices, a component of it, and the technology innovation programs. So those are the program components within that \$55 million.

What Mr. Mantel was explaining was the concept behind these programs and how they actually link together to support the development and growth of companies. Each one of those programs has a program guideline, a direction, and each one of those programs is delivered through this network of contacts that we have out there that we support. It's a program definition around each of those components. They're delivered out through a network that we support and they go to specific projects. So this is how the numbers tie together.

Mr. Michael Prue: Were there 1,600 applicants for all of these monies and all of these subprograms? How many of the 1,600 were successful in obtaining funds?

Mr. Bill Mantel: The 1,600 that I quoted would be the 1,600 successful projects.

Mr. Michael Prue: And how many, then, in total applied?

Mr. Bill Mantel: That I don't have. I'd have to double-check that.

Mr. George Ross: We can endeavour to get some more detail on that. We don't have the actual numbers of applications for our programs. What I would tell you, though, is that the way the funding is allocated through these organizations is differential, depending on how the program rolls out. For example, the business and mentorship program that I mentioned is a combination of companies that will seek out support from one of these service organizations that we support. In other cases, it will be general education sessions where there would be hundreds of people who show up for these sorts of things. So it's not all specifically application-based. The guidelines are all transparent, the access is equitable and fair across the province, and we can certainly endeavour to follow up with more specific details that support that \$55 million, Mr. Prue.

Mr. Michael Prue: I would appreciate that, because to tell you the truth—and it was not me who held this and I am not the critic in this area—I get glassy-eyed listening to the various programs that are there and no real, concrete details as to where the money goes. So if it is possible to list most or all of the 1,600—I know that's a lot of paper—how much money they're getting in and

what programs they're getting it from, that would be of some significant interest, I think, to me and to my caucus.

The second question I have relates to the emerging technologies fund, which you've talked about in part. You've given them a \$50-million operating budget, and this is the first year of the program. Can you give three or four of the biggest examples of the funding that you've given under this program? Who are the big recipients of this \$50 million?

Hon. John Milloy: I can respond to that, but if you'll allow me two seconds on the earlier point, this review that we've mentioned before about this network of support across the province that's taken place and some of the changes moving forward are actually to address, I think, some of perhaps what's underlying your question, which is that we need to have easy access points for both the researchers and entrepreneurs to go into the network. So we're trying to strengthen that network.

The second point, again on your earlier question, is that for the programs that go forward—and I think the deputy made this point—there is rigorous review and due diligence that goes on, so these programs do tend to be an application where they've come forward with very detailed information and there are criteria to move forward.

In terms of the emerging technologies fund, that actually is a venture capital instrument. We had a chance to discuss this yesterday. One of the biggest problems we're finding right now in the sector is lack of access to capital. Some time ago, we brought out what is often called a fund of funds, where the government, working with other partners, is able to leverage a fund which in turn funds venture capital funds.

The emerging technologies fund is a complement to it. It was announced on July 31. It is a situation where the government has set up an arm's-length fund to inject capital into the venture capital market. This one works differently from the fund of funds in that we want to co-invest in investments that come forward. The process that takes place is that investors, venture capitalists, come forward and are pre-approved by the government, again with very much an arm's-length due diligence process, and they're pre-approved to bring investments to our attention. We obviously take a look at those investments, but we also want to rely on the venture capitalists' expertise and the fact, quite frankly, that they are willing to put money in, and we match their investment. Together, then, we're injecting capital in the market and relying on their expertise.

The program just started at the end of July. I know we have had some interest going forward. Perhaps I can ask the deputy or an official to give you an update of where we are now, sort of six weeks into the program.

The Chair (Mr. Garfield Dunlop): You've got about a minute and a half to clean up on this one.

Mr. George Ross: Thank you. Before I answer that question, Mr. Chair, I just wanted to correct something I'd said earlier in response to one of your questions, if I may. I mentioned that we had provided \$8 million to Lakehead to support two chairs at the end of the 2006-07

fiscal year. It was actually \$6 million, so my apologies. I just wanted to correct that.

The emerging technologies fund: I mentioned yesterday in responses that it's really one part of a three-part strategy that the ministry has employed to start flowing capital, to incent the flow of capital to innovative companies. Venture capital into innovative companies is critical not only to support the growth of their business, but to provide management expertise.

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The emerging technologies fund is the third part of that strategy. The focus of that fund, as the minister has pointed out, is to actually flow money very quickly to companies alongside qualified investors. These are venture capital investors, angel investors, who are individuals who want to invest in venture-type operations, or other big institutions. Our requirement is to have a qualified investor to go alongside us. This is part of our stewardship, our accountability requirement, to make sure that who we're investing with is a credible investor and that the due diligence they are doing on the deal—because, in fact, we'll be following smart market money into this—is adequate to support our decision-making.

The government announced this program in the last budget, and we have implemented that program. At the end of July, the guidelines went up, and we've had a significant interest in the program to date. We've already had a number of applications in, both for qualification as an investor and also some deals which have come to the table. We're just in the process of doing the due diligence over that right now.

The program is run by an agency called the Ontario Capital Growth Corp. It has the ability to do the rigour over the deals and to flow the money, really, on market terms. The whole point here is not to interfere with the market but to actually support the market and to get money quickly into those companies. So there have been a number of interests expressed in the program to date, and the program has been very well received.

In regards to—

The Chair (Mr. Garfield Dunlop): I think we pretty well cleaned up on the time there. We're a little bit over—quite a bit. Thanks very much, Deputy. We can get back to you on that.

Now to the government members.

Mr. Shafiq Qaadri: Thank you, Mr. Dunlop.

First of all, as the Chair of the social policy committee, I find it a privilege to be able to offer, I hope, some contributions and constructive observations to the estimates committee. I find it a privilege as well to speak before Minister Milloy.

I would first of all, Minister, both commend you and possibly even commiserate with you on holding dual portfolios. I think it's particularly important, and probably an excellent mix from a government's point of view as stewards not only of the body politic but also of the body human, that we are hopefully mixing and matching best practices from training, colleges and universities and the Ministry of Research and Innovation.

There are probably about five or six threads that I would like to just address and perhaps invite your comments on. The broad subject, of course, is our attempt to deal with, to understand, and to operationalize best practices in the area of cancer, and particularly cancer research. Of course, as a physician trained here in Ontario who sees and has seen an extraordinary explosion not only in cancer but in the attempts at remedy and therapy, I think it is very important that the government is taking a very active and lead role.

I think many of us, especially seeing how the attempt to deal with cancer over the years has changed, has been ramified, has amplified, has expanded, are very conscious of the role that government, as stewards of research, have to play, because at the initial onset of research, of course, there are not the great pharmacoeconomic returns; there's not an extraordinary money-making venture. It often requires, as you know, Minister, an extraordinary amount of lead time before there are the on-the-ground, on-the-pavement remedies and therapies and drug therapies available to the public.

I know that you, as a Ph.D. yourself, holding a doctorate in NATO studies from Oxford—which, of course, are battles of a different sort—have a deep appreciation for scholarship and the application of research on a wide basis.

First of all, as a physician, I can tell you that ultimately what people are concerned about is, what is the cure for cancer? When you diagnose an individual, and, of course, by extension, share the diagnosis of any form of cancer, whether it's a more benign form or a malignant form or a terminal form or a too-late form, of the various parts of the body, ultimately people are asking, "What is the cure?" and will they be able to maintain some semblance of dignity and humanity as they go through the various therapies, be it radiation or drugs.

Ultimately I think in all of our endeavours, whether it's the research statistics, which Mr. Prue feels somewhat buried under, or the many, many programs and initiatives that we're trying, we're really focused on people. I'm sure you'll address some of those comments.

One of the things that's important—just like the normal human life has a life cycle, unfortunately cancer seems to have its own life cycle. We're beginning to appreciate more and more how things like the environment, air quality, water quality, soil pollution, what we call stealth hormones in the environment, how all of these different things are now part of the mix, the puzzle, the mosaic—often malignant—that we have to deal with. Even when I was studying at the University of Toronto and graduating with a degree in medicine in 1988—I won't say that cancer studies were in their infancy but perhaps in their adolescence. The word "oncology"—oncology is the study of cancer and its cures and therapies—was, as it is today, still evolving. I think it's very important that a ministry such as Research and Innovation does what it can to help support.

Unfortunately, as you know very well, the numbers, though they're in flux—something on the order of per-

haps one out of four, maybe even one out of three individuals born today can expect to experience some diagnosis of cancer within their lifetime. With the greying of the country—which it seems that many members, including myself, are contributing to—in an overall statistical manner, with the demographic shift, unfortunately we are going to be seeing more and more such diagnoses.

I think it's also very important—perhaps in your remarks, you'll shed some light on this—the disciplines of things like biotechnology or genomics, the actual application on the ground of genetic understanding and genetic research, following things like the Human Genome Project and some of its siblings and progeny, are some things that are relatively new and still to find wider application. I'm pleased to learn, for example, that there are venture capital instruments within the Ministry of Research and Innovation, because it's particularly those kinds of companies, that have wild ideas that have really not been tried and do not have wide application and have not already sought patent protection and so on, that can someday really affect what we as physicians and we as members of the government and stewards of this whole biological research area will perhaps be able to offer.

One of the things that the Ministry of Research and Innovation and, perhaps by extension, many of the other areas in our government are demonstrating is the need for partnership. For example, whether we're aligning with the Ontario Medical Association and acting, for example, through the Ministry of Health Promotion on things like smoking cessation and, by extension, affecting things like lung cancer and the incidence of asthma and a whole host of other conditions, these are very important. You don't have to travel too far to other jurisdictions to see, for example, that in jurisdictions, countries, cities that do not have such stringent anti-smoking-in-public laws, unfortunately their rates of various cancers, not only lung cancer but other cancers, continue to rise.

Of course, as physicians, we tend to be more people-focused and also, sometimes to our detriment, organ-focused. But we do see that, for example, things like skin cancer or different blood cancers, leukemias and lymphomas, prostate cancer, breast cancer, colorectal cancer are things that are very deeply frightening to individuals. They are increasing, in various aspects and in various populations—there's a geographic spin to that as well. I think it's important, therefore, that a ministry as well as government and all the various stakeholders and players, be they researchers, therapists and so on, align themselves to, hopefully, address these very real, deep and damaging concerns.

As an example, I'm pleased to note that the government has a very active program on what is a relatively new discipline, the idea of vaccinations for cancers. We're very familiar, for example, as doctors—and as all moms will tell you who take their children to get the childhood vaccines—with the idea of immunization for things like diphtheria or polio or pertussis, tetanus and so on. But the idea of being able to actually vaccinate

people—which is, by the way, still an option, but is now available through the government of Ontario—for things like HPV, the human papilloma virus—a vaccine offered to young women, the teens and tweens and so on, which is something that I think is very exciting and I know that the ministry has played a large role in diffusing these sorts of best practices.

1700

I'd ask, for example, for you to comment on things like the Ontario Institute for Cancer Research. I think many of us in the biological communities were quite heartened when we saw various ministries, including the Premier, attending the various functions and christening the opening of various institutes and making some fairly large and substantial donations, about which I'll hopefully be able to share the press releases with Mr. Prue to allay some of his concerns about the actual distribution of the sums.

In conclusion, I would ask you to shed some light on some of the collaborative spirit that seems to be inhabiting the Ministry of Research and Innovation for what is, of course, an evolving area, which is a very deep and real concern to everyone at every different level of analysis, whether it's as, for example, a physician, like myself, or as the MPP for Etobicoke North, or broadly, a watcher of the biological domains.

Hon. John Milloy: Thank you very much for the question. It's obviously an extremely important area in terms of cancer research. Our role in MRI, when it comes to the issue of research in this field, is really to act as a catalyst. I think your remarks made reference to a lot of the good work that goes on here in the province of Ontario. We have leading researchers and leading research institutions. When you think of some of the big research hospitals, when you think of the work that goes on at universities in areas related to cancer and the prevention of cancer and early detection of cancer, MRI's role is really to act as a catalyst to try to bring those individuals together to set up the networks to provide them with support so that they can move on and make progress in this area.

None of us need to be reminded of what's happening in terms of the frequency of cancer. I've seen statistics. I have statistics here that in 2007, 172 people in Ontario were diagnosed with cancer every single day—that's every day. By 2017, that number is expected to jump to 228 Ontarians per day unless there are significant changes to cancer prevention and to taking measures.

Ontario, as I say, is positioned to play a very major role. We have 25 research and academic hospitals employing 10,000 scientists, clinical investigators and other researchers. We are, in fact, one of the largest biomedical research centres in North America. Unfortunately in the past, our research funding has been distributed piecemeal to different researchers and research teams, meaning that big-picture ideas with great promise did not receive funding because they required many teams working together toward a common goal. I'm just giving you a little bit of the history.

We tried to correct that as government in 2005, when we created the Ontario Institute for Cancer Research. There was some confusion yesterday—I think many of us are familiar, as members, with Cancer Care Ontario, which of course deals with the treatment of cancer, but the Ontario Institute for Cancer Research, or OICR, is more on the research end. Its goal is to align our province's considerable strengths around cancer prevention, detection, diagnosis and treatment. We backed up the announcement of the creation of the OICR with a \$357-million commitment.

I'd like to just talk a little bit about the success over the past four years. We've not only brought together talented researchers from across Ontario, but we've also actually been a magnet for research talent from other parts of the world. We have researchers coming from places like California, Massachusetts, New York, Maryland, the UK and the Netherlands, just to name a few of our leading researchers. They're all coming to Ontario to be part of this unique approach to cancer research—to not have the piecemeal and the silos, but to have an overall vision. This calibre of talent is helping position the OICR in Ontario as a leader in the fight against cancer.

I think I mentioned yesterday that a great example of this is the OICR's role in initiatives like the International Cancer Genome Consortium. It's a global effort that's bringing together research institutions in 10 countries to unlock the genome of the 50 most common cancer tumours that plague humanity. It's knowledge that could lead to innovative new treatments or even cures.

The OICR was chosen to head the global secretariat; in short, to be the world headquarters of this global effort, something I think all Ontarians should be very proud of. The project will generate a staggering 25,000 times more data than the human genome project, making it one of the largest scientific projects in history.

Ontario, through the OICR, has been tasked to serve as a global data centre. That means that OICR will create the largest health informatics database in history. It's work that will play a critical role in this project and in our understanding of cancer, and it's work that will obviously create the foundation for innovations that will improve the lives of hundreds of Ontarians diagnosed with cancer every day.

Mr. Chair, I'm going to look to you for the amount of time because I know—

The Chair (Mr. Garfield Dunlop): You've still got six minutes.

Hon. John Milloy: Oh, good, good. So I can talk a little bit more, because I want to talk for a minute or two about the vaccine, but I just wanted to tell you more about what the OICR does beyond the work in genomics.

Just to give a summary of the mandate of the OICR, it's to strengthen Ontario's cancer research capacity and contribute to the development of the next generation of researchers by attracting outstanding researchers to the province—I just referenced a few of the jurisdictions they're coming from—establish partnerships within On-

tario to leverage and strengthen the scientific excellence and opportunities within the province; establish national and international program collaborations; develop programs that impact on the spectrum of prevention, early detection, diagnosis and treatment of cancer; build programs to translate research findings into health care interventions, products and services; train the next generation of researchers and clinicians for future innovation and discovery; and attract private sector investment in research and commercialization of research findings.

I wanted to pick up on a comment that I think you may have made that is obviously about dealing with disease and dealing with the tragedy of cancer, but at the same time I don't think members will think that I'm being harsh when I say it also is an opportunity in terms of the commercialization of research findings.

Health care is going through a revolution right now. I feel a little awkward telling this to a medical doctor, but I'm sure you would agree with it. I'm only two months on the job, but the opportunities I've had to speak to individuals who are working in terms of cancer research, especially in the area of genomics—they're talking more and more, and I believe I referenced this yesterday, about this whole field of personalized medicine and the way of taking a look at an individual. Certainly cancer is one area where, instead of simply finding out that a person has a category of cancer—something like breast cancer or colon cancer—you're actually able to divide those cancers up into smaller groups and find a way to treat that.

What that means then is that someone comes forward and is diagnosed with cancer. In the past, they went through various treatments, hoping one might work. Now, through these new technologies we're able to zero down and provide that treatment which is going to deal with that individual.

On the health ministry side, the cost savings could be quite significant. It means quicker service. It means that a lot of expensive treatments will not be needed because you can zero in on exactly what is required. Of course, in terms of these treatments themselves, it is an area where there's going to be considerable growth, where there are many opportunities for Ontario to be a leader.

When we talk about the pharmaceutical companies, for example, they're a source of jobs, a great source of investment here in the province. I believe there are opportunities there that are happening and that will be happening in the future that are going to go a long way to create prosperity.

1710

I know that Sanofi Pasteur recently received as part of DIP, our pharmaceutical program, a grant of \$13.9 million, and part of that was to support research and development into a cancer vaccine. So there's an example where we're partnering with a company to find something which is not only going to go a long way to improve the quality of life; it's going to reduce many of the cost pressures at the Ministry of Health and it's also going to be a source of jobs.

We have a very vibrant pharmaceutical industry here in the province. I think there are many opportunities, as health care goes through this revolution and this transition, to be dealing with them. Certainly, the area of cancer research—and again, I don't think members are offended when I talk about cancer research not only in terms of treating the disease but also as an economic driving force. I don't mean any disrespect to the patients. I just think that all of us recognize that it's a very important part of the economy. I'm suspecting, Mr. Chair—

The Chair (Mr. Garfield Dunlop): You've got about a minute and a half.

Hon. John Milloy: I have about a minute and a half to talk about that.

Again, our strategy has been to be the catalyst. The Ontario Institute for Cancer Research was very much about breaking down silos and collaboration and working together. We are a relatively small player in the international scene, and I think the only way that we get to compete in the big leagues is by making sure that we have all the best talent working together. That's why this whole idea of networks is so crucial: We can make sure that the research that is going out of one institution is complementing that that's going on at another institution, university or hospital. It allows us to go to the international stage and to partner with the big players, because they know that Ontario is working together, that we have this research capacity and that we, if you will, come forward with one voice.

Also, quite frankly, I think the support that the government is showing—yesterday I mentioned GL², the additional money that came in the budget for genomics. I told the story of meeting with Dr. Bob Roberts at the University of Ottawa, who's working in the field not of cancer but of heart disease. He said that the fact that he had a partnership with the government and he could talk about a government that was interested in that—that he was able to go to the national stage and to interest other major partners, other major research institutes, to come in a partnership with Ontario.

The Chair (Mr. Garfield Dunlop): Thank you so much, Minister. We'll go now to the government members—sorry. The official opposition. How could I forget?

Mr. Jim Wilson: I just wanted to say to the minister and the deputy that Bill Mantel was one of the few people, when I was minister, who actually understood all the programs too, so he has kept up. I think he developed a few of them.

Just one of the things that I want to ask you—in the end, I'm going to ask if you have any answers to the questions I asked you yesterday about polling and external consultants and how much money you're spending on those; about experts and the hotel rooms at the Sutton Place or the meeting rooms or whatever; Strategic Counsel, \$70,000; and the Ontario Centres of Excellence and whether you've come up with any other thoughts, Minister, about how they could be more transparent and subject to freedom of information.

But before that, I was having an interesting conversation this afternoon with my colleague Julia Munro—and this is a pretty simple question, but it goes back to what Mr. Prue was saying. Julia was saying that—it was very complicated—she had an entrepreneur in her riding who wasn't attached to academia. He simply has a widget, of some description that she didn't get into, that he has invented, that he has the patents on, but he doesn't have any money to build a prototype. So that's kind of the stage he's at; he can't really show anyone exactly what he wants to do. He's got it all on paper, apparently, and theoretically it should work out, but he doesn't have any money to manufacture a prototype and then go shop that around to people who might provide capital. So can you take me through the stages of developing a business—research, commercialize the idea, seed money, start-up, and then hopefully you can expand your business from there?

I'll just also say in the preamble here that I was reading a quote from Dr. David Naylor, president of the University of Toronto, and it goes back to what Mr. Prue was getting at. Dr. Naylor said in a column in the *National Post* on May 19, 2009, that through all the various R and D programs out there at the federal and provincial level, it's hard to navigate. To quote him directly, he said, “‘For understandable political reasons, every government loves to create new boutique programs,’ he said.” You have a myriad of them. “The problem is that there is crossover and confusion among them that makes the system very difficult for young entrepreneurs to navigate. The system needs simplification.”

So if I have a constituent, like Mrs. Munro does, that comes through my door, where do I direct him or her if she's an entrepreneur and not attached to any existing hospital or academic institution where there's some of that infrastructure in place and how do I get them to get their idea, eventually, to market?

Hon. John Milloy: Sure. I just want to make a few introductory comments, then obviously we can get some of the officials to walk you through some of the technical details. I do just go back to some comments that I made earlier about the review that took place and, believe it or not, the results of it were made public the day of the cabinet shuffle. So it was actually made public by the Minister of Revenue—technically about two hours after he had been sworn in—in a major address where he signalled that we want to make this system simpler, we want to make sure that this system is available to everyone across the province in terms of geography, and that part of the way that we do business is through a network of agencies. The word RIN is used, regional innovation network, where we have 12 across the province, we have OCE, we have MaRS; they are out there in the communities working with entrepreneurs, working with individuals with ideas, working with people who are looking for the type of research to come forward. I think they do an excellent job, but we're working towards a more streamlined process to make

sure that geography's not a hurdle and that there aren't hurdles within the system—that sort of easy entry point and one-stop shopping. We do have an approach that very much tries to look at the continuum from pure research through to established companies that are looking to expand or looking to develop a project, but certainly I think my officials could take you from the first steps and walk you through in terms of an entrepreneur who has an idea and who doesn't have that built-in benefit of being from a university or research institution.

Mr. George Ross: I would like to call Bill Mantel back to the table because Bill can, as you pointed out, give us some more detailed description on how that works. I would just, as the minister has pointed out, observe that as part of our journey in building the Ontario innovation agenda, one of the things that we were tasked to do by government was to ensure that our programs were relevant to entrepreneurs and to have a focus on clients and to make sure that the proceeds of our programming were actually getting to the people who were building businesses and jobs in the province.

After we developed and implemented our innovation agenda, our first priority of business was to really focus on reviewing our programs, especially those that are in the commercialization area, because we had just reconfigured our research funding support programs. So we did turn our minds to reviewing our commercialization programs with the goal of making them more effective and streamlining them and to give other levels of government places that they can bolt on more readily. There were some basic principles that came out of that review, which was conducted by a distinguished steering committee and also supported by an international panel of experts that came in and gave us some advice, and there were some principles that underpinned the direction for our programs going forward. The whole goal of that review is to recast our programs, reengage those stakeholder groups that are spread out across the province to make sure that entrepreneurs and companies have the access wherever they need it and the support they need to growing their companies. So perhaps I will turn it over to Bill and he can walk you through how an entrepreneur can get access to these programs through our regional innovation network.

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Mr. Bill Mantel: Thanks, Deputy. Through the regional innovation networks, what we're trying to do is try and get a place where an entrepreneur can go locally to try and get access to these things. I think the notion about complexity—it's to help them guide them through it. But the first thing they would do there is they'd want to know what the potential market for this is and probably provide the entrepreneur with some help developing the business plan, as I was saying before, and help connect them up with sources of capital. If there was a program that was available, they would help guide them through, and that could be perhaps working with our centres of excellence to try and get some additional work done, or working with IRAP, which is the federally

funded program where we try and collaborate as much as possible, and start there. I think those would be the first steps in trying to get that potential product idea moving forward and, after that, depending on the success of the entrepreneur getting to build a prototype and meeting other business plan milestones, help link them up with sources of capital.

We have been working with angels to try and develop networks of angel investors to link them to these companies at the regional level—or, perhaps, depending on the quality of the idea and/or the market potential, go into the investment accelerator fund or one of our other seed investment programs. So that's how I think an entrepreneur gets started.

Through the whole review that the deputy was talking about, we're trying to make that system work a lot better and make it a lot easier for entrepreneurs to access the type of programming that's available, both federal and provincial.

Mr. Jim Wilson: I'm just curious: You spend a lot of money; how many entrepreneurs have you helped? Is this stuff all up and running? I know you're developing the network and you mentioned that you're setting up more offices on a geographical basis so people can walk in off the street. I'm just trying to understand it.

Mr. Bill Mantel: Yes. These regional innovation networks do exist. They're helping lots of clients. But just to give you one specific number, I do know the numbers—the business mentorship program mentored 720 companies in the last fiscal year alone; various stages of mentorship. Those would be one-on-one, very intensive engagements with companies.

Mr. Jim Wilson: Thank you. Just in terms of your \$506-million budget, how many jobs do you think you've created or sustained or maintained? Because that's basically the bottom line and what people are looking at. Do you have any independent reviews of your programs that show how many jobs you've created or your numbers? Have you done any studies like that? If so, I'd ask you to provide them.

I guess I'm trying to get to—again, Mr. Prue hit the nail on the head by saying that it's very confusing. I admit that there are many more programs than when we started the ministry, but it does seem very confusing. In fact, I had the Library of Parliament do up all of Canada for venture capital, right through to commercialization, and they have quite an extensive paper. It seems to me that there's—federal-provincial, anyway—a hell of a lot of overlap, but I'm not sure, so I'll give you an opportunity to comment on that.

Basically, for each of your programs, what are the measures of success? Is it jobs? Is it maintaining jobs? Maybe you could take me through each program and tell me what the heck the end goal is and whether you've been successful.

Hon. John Milloy: Sure. There are two issues, and I'm certainly quite happy to give you some numbers on the job front. First of all is that a portion of our work is involved in terms of funding pure and applied research,

which, in turn, leads to the development of products and ideas that might be commercialized and lead to jobs. Although you can come up with some raw numbers in terms of people who are being employed in those research activities, the spinoffs are not as easily tracked.

At the same time, we also provide support to existing companies and start-up companies where—again, we're a relatively young ministry—we're seeing progress happen. But those jobs, over time, are certainly going to add up.

One of the ones that I've become familiar with is a company called Sentinelle Medical. They've actually come up with some new technology around breast cancer. Five years ago, they had four employees. We partnered with them. We were able to give them some support, and now they have 110 people. So there's an opportunity that we saw where we came in at the early stages, and we've certainly planted many of those seeds, moving forward.

I can give you some raw figures: 4,000 researchers are funded by the Ontario Research Fund, both our research and infrastructure fund. They are part of the system now that we're helping to employ. We've had 11 spin-off companies from the Ontario Research Fund, with about 100 private sector jobs. In our biopharmaceutical investment program, almost 500 research and construction jobs. I mentioned the international cancer genome project. This project will be a magnet for other investments and create jobs for more than 50 researchers. In our health technology exchange initiative, we've created about 105 full-time jobs.

Again, these are the seeds. You can follow the thread in many of these cases and see companies that are growing or in the spring position; they're ready to grow very quickly.

You talked about some of the review and the due diligence. Deputy, I don't know if you want to reply to some of that, on some of the follow-up work.

Mr. George Ross: Yes, I certainly can. You suggested earlier you might want some follow-up on some of the questions you asked yesterday; is that correct?

Mr. Jim Wilson: Yes.

Mr. George Ross: Okay. I have partial answers on some of those, but I would like to let you know that we are looking into those. You had a specific question, I believe it was a 2006-07 expenditure with a company called Strategic Counsel; was that correct? Strategic Counsel was one of them?

Mr. Jim Wilson: Yes. It was 2007-08, \$70,000 to Strategic Counsel.

Mr. George Ross: Yes, okay. Our records show that \$70,174 and change was the amount we expended with Strategic Counsel. That's an organization that commissioned some baseline research and that did some focus groups for us. That work went into the consideration of the Ontario Research and Innovation Council, ORIC. This was the panel that was put in place to provide advice to the government as we were developing the innovation agenda. The report was delivered and the research was used to help shape the policy direction for

the Ontario innovation agenda and to develop strategies to attract investment in Ontario. The Strategic Counsel at the time was a vendor of record, so the Management Board of Cabinet guidelines were followed in that case.

Mr. Jim Wilson: Was the report available to the public when it was done or was it advice to the minister?

Mr. George Ross: I'll endeavour to go back and take a look. I don't believe that our staff found the report; we didn't have enough time to actually find the report, so I'll endeavour to go back. I wanted to give you a partial answer on that one.

You also asked a question about some expenditures at the Sutton Place Hotel. The ministry has the need to use meeting rooms from time to time as part of our peer review process. The way our research programs work is we actually ask volunteers to sit on peer review panels assessing research projects. This work is done both remotely—so we ship the actual applications to them in their own locations, but at the conclusion of their deliberations, they come together, and these panels can be anywhere from half a dozen people up to 20 people, depending on the field. We are required to have them in meeting rooms, and our basic order of deliberation on what kind of meeting rooms we choose—we start with our own—we have a meeting room in our offices at 56 Wellesley. It's fairly limited in terms of the size but we do use that frequently. That's our first priority. Our second priority is always to go look at the Macdonald Block meeting facilities. Then, if we can't book that kind of space, we go to meeting rooms in hotels. The Sutton Place is across the road from our office; it doesn't require us to move paper and people around using taxis and those sorts of things, and it has been competitive in its rates.

So to answer your specific question, we have used the Sutton Place, and we use it primarily for support of these peer review research deliberations.

The Chair (Mr. Garfield Dunlop): There are just three minutes left, guys.

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Mr. George Ross: One of the other questions Mr. Wilson asked—and again, I believe this is a partial answer, and we'll have to correlate this answer with the question that's on the record here—had to do with the Ministry of Research and Innovation's use of sole-source contracting—non-competitive contracting. I've gone back and taken a look over the period of the estimates briefing book that we've got here. This is for the 2008-09 fiscal year—it's up to date. I can tell the committee that we have entered into a total of 13 non-competitive contracts with consultants. The total amount we spent is approximately \$1 million—it's just over \$1 million, as a matter of fact. The average of these 13 contracts was \$90,000. The 13 contracts were spread out over 12 different consultants. All of these non-competitive contracts were done in accordance with the Management Board guidelines, which require us to have a rationale and business case, so each of these was supported by a business case.

To tie back to some comments the minister made earlier, the work of our ministry is one where we need to reach out to experts to support us. In many cases, there is a very small pool, or no pool, of consultants and individuals who have specialized expertise. In addition, our program delivery requires us to move quickly in some cases, and when we combine those two things, it requires us to use non-competitive contracts. All of these were done in accordance with the guidelines in place at the time and of course, as you all know, the guidelines changed on June 17, when the Premier announced a new policy with respect to not allowing those single-source contracts.

Mr. Wilson, I'm not sure if that answers the full set of questions.

Mr. Jim Wilson: Yes, I did ask for a list of those. If you could provide a breakdown of the 13 contracts—and is that up or down from the year before?

Mr. George Ross: I will endeavour to get that information. I'm not sure I can provide a full list because some of these are commercial contracts, as you mentioned the other day.

Mr. Jim Wilson: Okay. I appreciate the answer.

Just back to the jobs thing quickly: I know you peer-review applications and projects, but I'm just interested in your job numbers, because frankly, when I was a minister, I was always skeptical of my own speeches in terms of the formulas they used and how many jobs this project might create or whatever. Do you verify job numbers? I know it's tough in that ministry because you're doing seed money and you don't see the results for a long time. Do you have any studies by anybody outside to show that you're doing a good job?

Mr. George Ross: We collect a great deal of data on all of our projects. As we've mentioned before, each project we support goes through a rigorous analysis. We ask the proponents to stipulate the kind of impact that their research activity or their commercialization activity is going to have, and we validate. We do track a lot of data. The challenge in delivering it at a table like this is, there is so much of it and it takes a long time to deliver this type of data at the table here.

I think the overarching issue here and the more important one for us to deliver at this table is, the kind of work that we do in this ministry actually supports jobs that create jobs in the future, so this is about providing seed funding to companies and to research activities that have the opportunity to blossom into huge endeavours in the province. We've seen some of these types of activities in companies that have grown out of the research labs. So we do track a lot of data, Mr. Wilson, in this area, and a lot of it has to do with our research activities. It's difficult to roll it up in terms of one job number.

The Chair (Mr. Garfield Dunlop): Okay. Thank you very much, Minister. Now to the third party. Mr. Prue.

Mr. Michael Prue: I have a great number of questions and they're all specific, so I hope I can get some specific answers or some specific promises to get the answers. The first one is—back to the emerging technologies fund.

You said it's six weeks old. How much did the fund start with six weeks ago?

Hon. John Milloy: Fifty million dollars was the allocation for this year.

Mr. Michael Prue: And how much has been spent in the last six weeks?

Hon. John Milloy: My understanding is, and I believe the deputy can supply some statistics of where we are, that we have not finalized any agreement. I'll ask the deputy to confirm that.

Mr. George Ross: The program is very, very young, Mr. Prue—

Mr. Michael Prue: I know; I understand.

Mr. George Ross: —so there has been no money allocated yet. We're in due diligence on a number of proposals that have come in. As you can appreciate, these are venture capital investments, so there is a requirement to do proper due diligence. I can give you these stats, though. Public inquiries: OCGC has maintained an up-to-date website that, as of August 25, received 5,100 hits, with an average of 100 a day. We're getting lots of traffic and interest in the program. We communicated the launch of the program, and that resulted in over 130 telephone and e-mail inquiries regarding becoming a qualified investor or an eligible investment. As of today, we have received 13 applications from qualified investors and six applications for potential deals.

Mr. Michael Prue: Okay. Now, in last year's estimates, the ministry budget set aside \$90 million in operating expenses for the Ontario venture capital fund. Is this fund up and running?

Hon. John Milloy: Yes, it is. It is up and running.

Mr. Michael Prue: And how is it different from the emerging technologies fund?

Hon. John Milloy: The Ontario venture capital fund is a partnership with a number of other bodies. OMERS is involved, as are the Royal Bank of Canada, the Business Development Bank of Canada and Manulife Financial. It's managed by TD Capital Private Equity Investors on behalf of all these partners, including Ontario, and its focus is on venture capital funds itself, as opposed to specific deals.

Again, if I can pass this over to the deputy, he could probably provide you with a little bit more of the technical data and where we are in terms of the fund.

Mr. George Ross: Just to repeat: The intent behind this program was different from the emerging technologies fund, Mr. Prue. The emerging technologies fund is focused on rapid deployment of capital into companies. The Ontario venture capital fund is a limited partnership fund where Ontario is working with other limited partners to actually invest in other venture capital funds.

One of the issues that has been troubling Ontario, and Canada as a whole, has been the lack of money going into those funds so they can subsequently invest in companies. So there was a need for government to act, and the Ontario government invested \$90 million. That has been levered up to \$205 million, as the minister has said.

TD Capital was selected by all of the limited partners to manage that investment for us. To date, they've made

two commitments to Ontario-based funds, Georgian Capital Partners and EdgeStone Capital Partners. They've made an additional commitment to an individual company.

Part of their mandate also was to invest directly in companies. They had the ability to do that if they saw a promising company. Perhaps I can explain why that is.

As part of our limited partnership, the government, along with the other institutional investors that came in with us, wanted to make sure that this fund, the OVCF, was run on a commercial market-based platform, which requires it to show returns. The TD Capital principals that are managing this fund for us have a requirement to actually have positive returns on this fund. That led us into allowing them to make investments in individual Ontario-based companies, and they have made one of those; it's a company called I Love Rewards. Let me read out some more specific—

Mr. Michael Prue: Is that "I love the awards"?

Mr. George Ross: I Love Rewards.

Mr. Michael Prue: Oh, rewards. Okay.

Mr. George Ross: Maybe I can read out a little bit more of the detail here. TD Capital committed \$20 million to EdgeStone Capital Partners who are seeking to raise a \$100-million to \$150-million fund. It's very important in many of these cases for these venture capital funds to have lead investors, so lead commitments. It allows them to go around and raise other capital from institutions so they can close their fund and start making investments. EdgeStone Capital was a \$20-million commitment.

The second commitment, as I mentioned, to Georgian Capital Partners, was for \$15 million. This is a smaller fund; they're targeting to raise \$50 million to \$75 million.

The first co-investment, as I mentioned, a company called I Love Rewards, the fund invested \$1.8 million in an \$8.7-million B round of financing, so that's a second round of financing from the company. That company is North America's leading incentive marketing company that designs, develops and implements innovative incentive solutions for small companies as well as Fortune 500 companies. These are companies that want to put an employee incentive program in place, and this company actually custom designs those kind of programs and delivers them on behalf of companies. It's a rapidly growing company and it's a success story.

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Consistent with the investment strategy provided by the limited partners, the fund has also made two small US fund commitments in accordance with the other capital funds allocation in the program portfolio. So, as I said, they have a returns-based requirement, and they've made very small investments in two other funds to make sure that they have good returns there as well. So the primary focus of this is investment in Ontario-based venture capital funds, but the overarching principle is to seek returns.

Mr. Michael Prue: Okay. And so there are a total of five companies benefiting—

Mr. George Ross: Yes. There have been five commitments that have been made.

Mr. Michael Prue: Okay, five—two of them relatively small, plus the three you said here.

Mr. George Ross: Yes.

Mr. Michael Prue: You said relatively small; it's obviously much less than \$1.8 million. That was the I Love Rewards.

Mr. George Ross: Yes. The I Love Rewards is \$1.8 million. I don't have the data on the size of the other ones, but I believe they were each under \$2 million. I'll have to get the facts on that.

Mr. Michael Prue: In the last estimates, the ministry set aside \$20 million for something called the social venture capital fund. How is this different? What is it?

Mr. George Ross: There's a new and emerging field called social entrepreneurship. These are types of businesses that are emerging that are not entirely focused just on returns and profit; they also have, in the constitution of the company, a social mandate. These companies join a commitment to a social enterprise with a profit-making business venture. This is a new and emerging field of business that's occurring globally. There's a lot of activity in Europe in this area, and the UK has been leading with some fairly significant companies that are focused on social venture capital. Again, these are companies that want to do the right thing by the environment or through a social cause but have a business activity.

The ministry has two activities in that space, both of them being delivered through the partner at MaRS. The first one has to do with something called Social Innovation Generation at MaRS. That is a \$6-million commitment over a four- or five-year period, I believe. I will have to get the data again on that. I think we're in year three of a five-year program for social innovation. What that does is it actually targets business mentorship support for social entrepreneurs. So these are people—they're not like normal scientific start-ups; these are people with very particular mentoring and business support activities.

Alongside that, the government made a commitment to set up a targeted venture capital fund for these social entrepreneurs. That program was put in place, but it's been put on hiatus now; it isn't active. This was as a result of the last fall economic statement. So that \$20 million has not been deployed.

Mr. Michael Prue: So none of it has been deployed?

Mr. George Ross: None of it has been deployed.

Mr. Michael Prue: None of it. Okay.

Can you describe the purpose of the innovation—

Mr. George Ross: Mr. Prue, can I—I'm sorry. I should just correct that. I said none of it has been deployed. There was a commitment of \$250,000 to MaRS out of that to develop the actual program profile for the social venture capital fund.

Mr. Michael Prue: So that's \$250,000 committed, but not actually—the cheque is in the mail, is it?

Mr. George Ross: No, there has been no investment. That was program design.

Mr. Michael Prue: No investment, but it's committed. Okay.

Can you describe the purpose of the innovation demonstration fund? What projects have come out of this in the past year?

Mr. George Ross: Yes, indeed. The innovation demonstration fund is a program that is targeted at environmental and energy technology companies. Many of these companies require, on top of venture capital support, very targeted support for developing their prototypes and demonstration technology. It's one thing to invent these technologies in a research lab; it's a very different thing to scale them up to a commercial state and actually prove that they work and can generate the environmental and economic benefit that they claim to. So this program was put in place—and again, the target of this is really focused on environmental and energy technologies. Perhaps my ADM, Dr. Rockingham, can help you with some of the program details here. It's a \$50-million program over four years, and it is an application-based program. Applications come in. There is a technical due diligence on the proposals that come in and a financial business case assessment, as well. Then there will be either a grant or a loan that's provided to that company to support that demonstration project. That investment allows them to actually go out and develop a customer base and improve their technology.

Yesterday the ministry talked about a significant early program that we invested in called Plasco Energy, in Ottawa. That's really a waste-to-energy project.

Would you like me to go through some of the companies that have been invested in in this program?

Mr. Michael Prue: Please, yes.

Mr. George Ross: Okay. Maybe I can turn it over to Dr. Rockingham just to walk through some of those projects.

Dr. Tony Rockingham: Just a little bit of background, as the deputy said: The IDF program is part of our continuum of programs where we recognize that it's not just enough to have good ideas and research and have good thoughts. Really, what we're trying to do is improve the quality of life globally and to generate jobs in Ontario from good Ontario ideas. IDF is a program that operates, as the deputy says, once an idea has been proven in concept. Perhaps it has come out of a research institution. Perhaps it has come out of a university. Perhaps it has come from someone who has been working in their garage. It's an application-based program where we say to people with products that they believe they can move into markets, but they need some assistance to demonstrate—perhaps to scale up to a project so that it is of commercial interest.

As I say, it's application-based. We ask them if they're going after a global market because we recognize that that's where the significant jobs are going to be. We focus, as the deputy said, on specific areas: clean technology, and that would include energy technologies that have the opportunity to address global problems such as climate change and things like that.

For example, one project that I think is worth mentioning is Biorem. That's a project where we provided \$1.1 million through the innovation demonstration fund, and it's supporting two real-world demonstration projects. There were some questions earlier about jobs and how we know what sort of job impacts we're having. We know that there are 40 employees with the company that's involved in Biorem and they project that that's going to increase by 27. Of course, we're going to have to check that in the future. That's not a number that's carved in stone, but that's their projection right now. That's the sort of reporting that we offer to ensure that we are able to track the direct job impacts.

As the deputy said, though, what we're really trying to do is support the creation of jobs that create jobs in the future, because this sort of company could be the next RIM in their category.

We're looking for technologies that have global application and therefore can go well beyond the single demonstration that we fund, and if they are able to break into the global market, there will be a tremendous increase in job creation.

Mr. George Ross: Mr. Prue, you were asking for a specific company. Let me run through the list of companies that have been supported.

6N Silicon: \$1.5 million, pilot scale, to demonstrate purifying of silicon for solar energy.

EcoVu Analytics: \$4 million to help EcoVu bring water analysis and purification technology to the global market.

Northern Nanotechnologies: to develop a repeatable process for delivering nano materials in two applicant areas: supported catalysts and crop protection. So that's a nanotechnology company.

Biorem: Dr. Rockingham mentioned that, and I believe the minister was visiting that company last week or the week before.

GreenCore Composites: \$400,000 to set up a demonstration plant in Mississauga for the production of green inside material, high-performance natural fibre, reinforced composite—this goes into manufacturing.

KmX: \$1 million to operate a demonstration plant to build international commercial interests and new technology that recycles harmful industrial chemicals instead of disposing of them.

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Linamar Consumer Products at \$1.85 million to assist Linamar Corp. in developing the next generation of innovative lawn mowers in Guelph. Cordless electric mowers work as effectively as traditional gas mowers. I believe those are on the market now, so that is a success story.

Menova Energy Corp.: \$3 million to assist Menova in demonstrating a concentrated solar thermal and solar electric generation system.

Plasco Energy: I mentioned that that was \$4 million to support the waste-to-energy project. The results of that are being measured against their ability to process that waste and to turn it into electricity without having any harmful environmental impact.

The Woodbridge Group: \$1 million to support the research and commercialization of soya-based polyurethane automotive products. These are biomaterials that can go into automotive products.

The last one is Verdant Power: \$2.3 million to turn river currents in the St. Lawrence River into clean electricity. This is a different type of water turbine that could be used without negative environmental impacts. I believe the minister mentioned that as an example yesterday.

So these are projects that have been supported. The program is still up and running. We have applications in and we're doing the due diligence on those right now.

Mr. Michael Prue: How much money is still left in the fund?

Mr. George Ross: Give me a moment. I'll just do a little bit of math.

The Chair (Mr. Garfield Dunlop): We're down to about two minutes. It's the final round here.

Mr. Michael Prue: While one of you is working on that, with only two minutes left, \$27 million was also set aside for the Next Generation of Jobs Fund. How many projects were funded from that? There are all these different funds. I'm trying to figure what overlaps there are, or non-overlaps; which ones are the expenditures coming out of and which ones are they not.

Mr. George Ross: Right. Fifty million dollars' additional funding was provided to the IDF program, just so I can close off on that.

The Next Generation of Jobs Fund is a \$1.15-billion government program. There are three components to that program. The first one is called the jobs and investment program, and that is led by the—we work in partnership with EDT—the Ministry of Economic Development and Trade—in the delivery of that program. The jobs and investment component of that is very much focused on existing industries and companies that are creating jobs—incremental jobs or retaining jobs in the province.

There is a component of the Next Generation of Jobs Fund program called the biopharmaceutical investment program, which is a \$150-million commitment to focus on incenting investment in the pharmaceutical and vaccine areas, those sorts of businesses. That is a program that the Ministry of Research and Innovation runs. I suspect that's the annual allocation that's in our budget. In fact, I have a note here that says it is. So the \$27 million that you're referring to is the MRI component of the Next Generation of Jobs Fund associated with the biopharmaceutical investment program for 2009-10.

The Chair (Mr. Garfield Dunlop): Okay. That just about does it for today, ladies and gentlemen. We'll adjourn until Wednesday the 23rd at 3:30. We have about an hour and 50 minutes left in this ministry.

I'd like to thank the committee members and the minister and all the staff of the ministry today for a job well done. We'll see you next week. The meeting is adjourned until then.

The committee adjourned at 1755.

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