Telus not out of BCE race yet

CLEAN BREAK

Is metering plan really so smart?

TYLER HAMILTON

Large information-technology pro-
jects aren’t the easiest things to de-
develop or deploy particularly
when you’re supposed to be as close
to technology as the Bell. The
question, however, is how
you handle this economy in
making the system open enough to
reproduce.

The public sector struggles in this
area too. One, billions of dollars are spent on technology that’s ob-
solete before it has been put in
place. Second, if something goes
terribly wrong, all that infra-
structure built to support the
public doesn’t need to be re-
considered.

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already has a contract with Lime-
stone-based ESCO Technologies,
which saw its share price plunge af-
after PG&E’s decision.

The fact that the sector is running
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Laser can spot cavities before they do damage

After all, the U of T academic was a world-recognized expert in thermophotonics — specifically, he studied the use of high-tech lasers to detect defects in metals and other materials. There’s no reason, Mandelis figured, such a technique couldn’t be adapted for assessing the health of teeth.

The two men approached the Ontario Centres of Excellence (OCE), a government agency focused on innovation. It liked the idea and decided to contribute early funding to kick-start product development.

The U of T and Abrams, through his own consulting company, also helped finance the necessary research.

Tests from a lab prototype have proven the effort worthwhile. Be- tween the teeth, considered one of the most difficult places to detect cavities, the technology can consistently spot lesions as tiny as 50 microns. That’s about half the diameter of a strand of human hair.

It can also spot signs of tooth demineralization and decay up to 5 millimetres below the surface of a tooth and under fillings. Generally, you need to lose roughly 30 per cent of the mineral in an area of your tooth before it starts showing up on an x-ray.

“If a problem area is found early enough, it’s possible to remineralize the tooth using special treatments of gels and pastes. In other words, no need for needles and drilling.”

“This is turning out to be a very good venture,” says Mandelis, who beams with pride when talking about the outcome of his team’s research. “I never thought it would work out like this.”

The device works by aiming a small hand-held laser at a tooth, which is exposed to pulses of near-infrared light. This causes the tooth to glow and release heat. A special infrared detector measures the wavelengths of light and heat that are emitted from the tooth. Healthy teeth produce a specific wavelength signature, so any deviations can be analyzed to pinpoint hidden lesions and early breakdown of mineral.

This process is repeated at various tooth depths simply by changing the frequency of the laser.

Abrams emphasizes that while the measurement of heat is involved, it doesn’t pose any harm to the patient. Throughout the process, the temperature of a person’s tooth will rise by a barely detectable 2C. And again, no harmful radiation is present, so the test can be done every six months.

Quantum is collaborating with groups in Texas, Holland and England on field tests. It’s also looking to get follow-up funding from the OCE and partnerships — strategic and financial — that will help get its commercial prototype to market.

“We’re still looking for an interested manufacturer, venture capitalists and other partners,” says Abrams.

Bob Civak, interim managing director for the OCE’s centre for materials and manufacturing, says Quantum has the right people leading it: a visionary dentist with decades of experience and a world-renowned university researcher.

“Stephen saw the vision and was able to understand the possibilities, and Andreas was able to understand how he could use this technology to detect dental caries,” says Civak.

“Now, it’s really about going into the commercial phase where you’re trying to turn that working device into an instrument that could find its way into dental offices around the globe. Even a low adoption rate is a huge market, because there are so many dental offices in existence.”

And that, as any dentist will tell you, is something to smile about.

Q&A WITH STEPHEN ABRAMS

Q: What were your total sales and profits in your last corporate year?
A: Quantum is a Canadian start-up company that is in the final stages of developing its device. We expect to have a prototype ready for launch at a large international dental research meeting in July 2008. Once we complete our clinical testing phase, we should have devices ready for sale by fall 2009.

Q: How much seed capital did you have when you launched the business and how did you get it?
A: Our seed funding and support has come primarily from the Ontario Centres of Excellence. This agency of the Ontario Ministry of Industry and Innovation has been involved from the beginning providing with funding and guidance. Through my consulting company, I have contributed to this project as well, both with hard dollars and in-kind contributions.

Q: What’s been your biggest success and failure so far?
A: Each step of the research process has been exciting. One of our current projects involving detecting early areas of decay around filling materials has been most challenging. Fortunately, we have not had failures but research is both challenging and stimulating.

Q: What are the biggest challenges facing your business?
A: There are two big challenges facing our business. Our first challenge is in educating the dental community and public on the ability of these new technologies to detect early areas of decay. Once found, treatment would involve remineralization and not the placement of filling materials. We are hoping that the pharmaceutical industry will provide the remineralization solutions in the form of tooth pastes, varnishes or gels. The other major challenge is finding secure funding and support to bring our device to market.

TEETH from B1

EXPROPRIATIONS ACT

NOTICE OF APPLICATION FOR APPROVAL TO EXPROPRIATE LAND

IN THE MATTER OF an application by Toronto and Region Conservation Authority for approval to expropriate land being comprised of:

In the City of Toronto, formerly Township of Pickering, being PIN 06507-0018(LT), composed of all of Block B, Registered Plan 360; Subject to easement over all of Block B, Registered Plan 360, as set out in TB176976, TP224456, TP81752 and SG17595.

for the purposes of constructing Phase 2 of the Port Union Waterfront Improvement Project in the City of Toronto.

NOTICE IS HEREBY GIVEN that the application has been made for approval to expropriate all title and interest in lands in the City of Toronto, comprised of and described as follows:

(1) The interest, if any, of Arthur Thomas Chester in the lands described as:
In the City of Toronto, formerly Township of Pickering, being PIN 06507-0018(LT), composed of all of Block B, Registered Plan 360; Subject to easement over all of Block B, Registered Plan 360, as set out in TB176976, TP224456, TP81752 and SG17595.

(2) The interest, if any, of Josephine Daley in the lands described as:
In the City of Toronto, formerly Township of Pickering, being PIN 06507-0018(LT), composed of all of Block B, Registered Plan 360; Subject to easement over all of Block B, Registered Plan 360, as set out in TB176976, TP224456, TP81752 and SG17595.

(3) The interest, if any, of Duncan James Keenan and Delta Dorothy Keenan in the lands described as:
In the City of Toronto, formerly Township of Pickering, being PIN 06507-0018(LT), composed of all of Block B, Registered Plan 360; Subject to easement over all of Block B, Registered Plan 360, as set out in TB176976, TP224456, TP81752 and SG17595.

(4) The interest, if any, of Robert Thomas Keenan in the lands described as:
In the City of Toronto, formerly Township of Pickering, being PIN 06507-0018(LT), composed of all of Block B, Registered Plan 360; Subject to easement over all of Block B, Registered Plan 360, as set out in TB176976, TP224456, TP81752 and SG17595.

(5) The interest, if any, of Lisa Fung Zid in the lands described as:
In the City of Toronto, formerly Township of Pickering, being PIN 06507-0018(LT), composed of all of Block B, Registered Plan 360; Subject to easement over all of Block B, Registered Plan 360, as set out in TB176976, TP224456, TP81752 and SG17595.

Any owner of lands in respect of which notice is given who desires an inquiry into whether the taking of such land is fair, sound and reasonably necessary in the achievement of the objectives of the expropriating authority shall so notify the approving authority in writing.

(a) in the case of a registered owner, served personally or by registered mail within thirty days after he/she is served with this notice, or, when he/she is served by publication, within thirty days after the first publication of the notice;
(b) in the case of an owner who is not a registered owner, within thirty days after the first publication of the notice.

The approving authority is:
The HONOURABLE DAVID RAMSAY
MINISTER OF NATURAL RESOURCES
Province of Ontario
(Approving Authority)
616 Floor, Room 6630, Whitney Block
99 Wellesley Street West
Toronto, Ontario
M7A 1W3

DATED this 18th day of June, 2007.

Notices are available for inspection at the offices of CHAPPELL, BUSHELL, STEWART LLP, 6th Floor, Room 6630, Whitney Block, 99 Wellesley Street West, Toronto, Ontario, M7A 1W3, and Toronto and Region Conservation Authority, 5 Shoreham Drive, Downsview, Ontario, M3N 1S4.

By its Solicitors
CHAPPELL, BUSHELL, STEWART LLP
Harriers & Solicitors
20 Queen Street West, Suite 3310
Toronto, Ontario
M5H 3R3

Par: Paul R. Henry