

INTERNET OF THINGS

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ROBERT HERJAVEC TELLS BUSINESS OWNERS WHY SECURITY AND IoT NEED TO GO HAND-IN-HAND

Being excited about the interconnectivity IoT affords is one thing, but being aware of its vulnerabilities is another. Who better than the CEO of one of Canada's fastest-growing technology companies, Robert Herjavec, to provide the security insights Canadian businesses owners should heed.

Mediaplanet Do you feel Canada has positioned itself well to be a leader in the new sectors opened up by IoT?

Robert Herjavec Canada is generally a year or so behind our neighbours to the south in terms of our adoption of technology. The costs of technology for both consumers and enterprises alike are higher here. Cost slows progress. Industry in Canada is certainly moving to adopt IoT and we will continue to reap the benefits. In order to see further adoption I believe we have to make it easier for businesses to understand the benefits of IoT. We need to demonstrate how leaders can make use of improved analytics and leverage the advanced data available from connected devices in order to make more informed decisions. It is also our responsibility to keep security in mind. With more connectivity and more endpoints comes more risk. Enterprises must consider their security posture and the enhanced scope of their environment with more and more connected devices blurring the lines of the personal and professional worlds.

MP Are people underestimating the impact of these technologies?

RH The power of IoT is that organizations who understand the information generated from the connected devices will be able to leverage it to predict the future. Our devices are providing indications of our habits and of our potential actions, before we're even faced with the opportunity to choose for ourselves. If I have insight into your personal data, regular activities, and habits, I may be able to correlate it all and determine if you would be a strong potential candidate before I even bring you in for an interview. Or, with the appropriate health information I could decide if I should offer you a lower insurance premium. The primary misconception I see is the average

consumer assumes that as this technology is invented, security and safety are part of the design. That's not always the case, so we need to safeguard ourselves by leveraging unique passwords, not logging on or transacting on public networks, limiting what's connected to our home network, and not mixing personal and professional devices. At the enterprise level it's even more challenging. At Herjavec Group we are responsible for securing highly complex enterprise environments. In order to assess and address the security risks facing an organization, we have to consider the full scope of the people, processes, and technology in place. As IoT continues to optimize how our corporations operate, security solutions also need to become more efficient and be embraced.

MP When you look ten or fifteen years into the future, how transformative do you see IoT being?

RH To most generations, what we can do with mobile technology today is absolutely incredible. Think about the last time you were with a grandparent and demonstrated that FaceTime allowed them to connect face-to-face with another relative who was travelling, or lives on the other side of the world. They were awestruck I'm sure! But, for the youth of today, FaceTime is the norm. It's the electricity argument — we just expect technology to make our lives easier and we demand seamless connection. IoT is absolutely a paradigm shift in the way the telephone and the internet were because it's changing the game in terms of what is connected, how we respond to technology, and what we expect from our devices — including but not limited to content, interconnectivity, insight, and analytics. ●

Read the rest of Robert's cybersecurity insights at IndustryandBusiness.ca



PERSPECTIVE

— *Wired Magazine's* Founding Executive Editor

What We Can (And Can't) Know About the Future

With the Internet of Things, we're seeing the core principles of the information revolution being pushed further and further into the physical space we inhabit daily.

To find out what this means for the future, we turn to someone who has had his finger on the pulse of IoT since long before it even had a name, founding Executive Editor of *Wired Magazine*, Kevin Kelly.

"There's an emergent layer to this connectivity that makes it hard to predict what's going to happen," admits Kelly. "I think the closest analogy to what we're about to see happen is the invention of language, which is also a communications technology."

Which is not to say we can't see the natural continuation of current trends into the future. Some things, after all, are inevitable. "The particulars are impossible to predict, but we can still see the large-scale trends," says Kelly. His new book, *The Inevitable*, is all about where those forces are pushing us.

We can see, for example, that the future is a world where people choose ever greater personalization of product and experience over an increasingly ephemeral idea of privacy in the digital age. We can see that it is a world where most every thing important in our lives — from our phone to our home to our car — develops both greater autonomy and an increased capacity to communicate, with other things, but also with us.

But, one of the most important insights is, while almost every aspect of life will be touched, many things will pass through relatively unchanged. "It's not going to be a cascade flood that just wipes out all the unconnected things," says Kelly. "Technology doesn't work that way." ●

D.F. McCourt

Learn How Your Industry Is Utilizing IoT from the Industry Leaders That Know It Best



Ignacio Paz
General
Manager,
IoT, Rogers
Communication

It is inevitable that IoT technology will impact every industry in Canada, and agrifoods is no different. When you stop to think of all that is involved in agriculture, opportunities for information innovation are everywhere you look.

For example, there is definitely a need to keep track of mobile assets like trucks and tractors. These work vehicles have the same potential for connectivity benefits that we see across all industries. But, there is also no end of more specialized agricultural systems that need monitoring. Feed levels, water flow rate, barn temperatures — these are all vital areas

where we can see immediate results from not just remote monitoring but also remote management. At its heart, the technification of agrifoods is really a natural evolution.

As we implement these more sophisticated systems on Canada's farms, however, it is vital we focus on reliability. These solutions are made out of different layers and every component is equally important. If the sensor runs out of batteries, that's a problem. If the software crashes, that's a problem. If the wireless connection goes down — that's a problem.

Fortunately, when built and managed properly, with a whole-system approach that ensures every layer works together seamlessly, these IoT solutions can be as rugged and reliable as any other piece of farm equipment. That's the standard Canadian farmers demand and deserve from any new tool.



Michael Murray
General
Manager,
Industrial
Sensing,
Analog Devices
Inc

Farming in the future can utilize the advancements IoT offers. Agriculture is becoming a viral topic, as problems with efficiency, quality, and sustainability exist globally that can be solved through advancements in technology. With the availability of sensor fusion, ubiquitous connectivity, and focused analytics running in the cloud, farmers seeking competitive advantage and improved sustainability are able to develop a more advanced understanding of growing conditions, soil chemistry, growing cycles — and how these all impact the quality and profitability of their yields.

Analog Devices implemented a full

IoT sensor-to-cloud solution with a group of farmers to answer a question — why do tomatoes grown in New England taste so bad? The Internet of Tomatoes project utilized sensors and cloud algorithms to prove why the region's tomatoes are tasteless. We partnered with farms to test technology that could survive in the field elements, send data gathered from sensors to the cloud, and deliver information with the simplest of connectivity devices — in real time.

Knowledge developed on soil hydration, fructose, sucrose, glucose, and salinity of the tomatoes, along with carbohydrate and mineral levels, has greatly impacted the decisions growers can make to improve the quality of their product. The project is so impactful, we have created our own micro farm to study more environmental, pest, and soil chemistry to improve our sensors, which are the start of the digital thread.



Gary Davenport
President, CIO
Association of
Canada

All Chief Information Officers (CIOs) are constantly searching for opportunities to improve their organizations' efficiency and effectiveness. This pursuit means being able to balance many conflicting demands and sort through all of the new digital technologies available to focus on those things that will deliver the greatest value for the relevant stakeholder. To do so, CIOs must be able to separate fact from fiction and not get caught up in the inherent marketing hype for these new technologies.

IoT has reached the stage for CIOs where it is no longer a distant possibility but rather a firm reality for exploitation. Based on successfully early adapter deployments, CIOs are now actively engaged in exploring IoT opportunities for their own organizations and making it an integral part of their digital trans-

formation strategy. Interest in learning about real-world implementations of IoT is very high and continuing to grow.

The CIO Association of Canada (CIOCAN) is a not-for-profit, vendor independent organization that exists to serve the needs of CIOs, with over 300 members from across Canada. IoT has been a dominant recurring topic at many of our recent events. Virtually all areas of the country and all industry sectors are engaged in the discussion about IoT and how best to move forward. Be it energy, transportation, consumer products, wholesale, retail, or the public sector, there are now many examples of organizations taking advantage of the new opportunities made possible by IoT. Adoption will continue to expand as more and more devices get connected to the internet.

The challenge that CIOs face is not whether to leverage the power of IoT, but rather how best to do it to ensure their respective organizations keep pace with the competition, and the expectations of all Canadians for enhanced, smarter products and services. The time to act on IoT is now.



Robert Watson
President, CEO,
The Information
and Technology
Association of
Canada

IoT is moving technology off our desktops and into our everyday lives. From wearable devices that alert health professionals to medical issues before they happen to smart factories that maximize production efficiency, no new class of technologies has the potential for broader social, economic, and environmental benefits than IoT.

Canada's technology sector is well positioned to become a global leader in IoT — projected to deliver up to \$11.1 trillion globally in economic value by 2025. However, to realize these opportunities, it is vital governments across Canada act now to set the right policy foundations. This step needs to include leveraging connected technologies to modernize public services and making government an early and model adopter of IoT.

It will require strategic investments

in infrastructure, including networks capable of supporting billions of new devices, data analytics to realize value from new IoT-generated data, cybersecurity technologies to keep Canadians safe, and innovation and demonstration centres to help entrepreneurs prove their ideas and scale their businesses.

Canada's information and communications technology talent gap currently stands at approximately 71,000 positions and is projected by ICTC to grow to 182,000 by 2019. Governments need to do more to ensure Canada is able to develop, attract, and retain the IT talent needed to fuel the digital economy.

Governments need to adopt a nimble pro-innovation approach to regulation. This requirement means adopting outcome-focused standards that encourage experimentation. It means working with other jurisdictions to create interoperable privacy regimes that avoid unnecessary duplication or barriers to cross-border information flows, and encouraging innovative and ethical uses of personal information. IoT holds the possibility to make the last generation's science fiction the next generation's reality.

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