

# Editorial: Technology Evolution

Chris McPhee, Editor-in-Chief

Michael Weiss, Guest Editor

## From the Editor-in-Chief

Welcome to the May 2013 issue of the *Technology Innovation Management Review*. This month's editorial theme is Technology Evolution, and I am pleased to introduce our guest editor, **Michael Weiss**, who is a faculty member of the Technology Innovation Management (TIM) program ([carleton.ca/tim](http://carleton.ca/tim)), and who holds a faculty appointment in the Department of Systems and Computer Engineering at Carleton University in Ottawa, Canada.

June's issue will not have an editorial theme, but will include articles relating to our overall scope. Over the summer, we will be covering the theme of Cybersecurity. If you have expertise in cybersecurity and wish to contribute an article, please contact us.

Also, you may recall that several articles in our April issue on Local Open Innovation ([timreview.ca/issue/2013/march](http://timreview.ca/issue/2013/march)) focused on the Seeking Solutions approach to solving challenging business problems, which arose from a series of Quebec Seeks Solutions events. The 3rd Quebec Seeks Solutions Conference will be held in Quebec, Canada on 5-6 November 2013, and the conference theme is: "Methods and Policies Creating a Local Ecosystem for Technology Transfer, Collaboration, and Local Innovation". The TIM Review is selecting submissions for the pre-event, and the best papers will be published in a future issue of the TIM Review. Abstracts are due June 28, 2013. Please consider submitting a paper to this conference and sharing this call for papers with your contacts: [tinyurl.com/nqwdzd3](http://tinyurl.com/nqwdzd3)

We hope you enjoy this issue of the TIM Review and will share your comments online. Please contact us ([timreview.ca/contact](http://timreview.ca/contact)) with article topics and submissions, suggestions for future themes, and any other feedback.

**Chris McPhee**  
Editor-in-Chief

## From the Guest Editor

Technology evolution is one of the least understood areas of innovation management. It is hard to predict the path a new technology will take, and yet the fortunes of companies and whole industries depend on how well changes in technology are managed. This issue contains three articles on technology evolution, one article on the evolution of business ecosystems, and a summary of April's TIM Lecture. All of the articles in this issue have been contributed by the faculty and graduate students of the Technology Innovation Management (TIM; [carleton.ca/tim](http://carleton.ca/tim)) program at Carleton University in Ottawa, Canada.

The first two articles in this issue make contributions to core issues in technology evolution; they create models based on insights from evolutionary biology for understanding the evolution of wireless standards and the evolution of mashups. The third article deals with how web-application developers can deal with the evolution of requirements and component technologies. The fourth article complements the discussion of technology with a discussion of the evolution of the business ecosystems in which technology companies participate.

**Arthur Low**, CEO of Crack Semiconductor, applies a framework of technology evolution based on the theory of punctuated equilibrium to the comparison of two wireless sensor network (WSN) standards for industrial instrumentation and control. This framework reconciles two contrasting perspectives on technological change: the gradual evolution of technology and its rapid and discontinuous commercialization.

**Solange Sari, Nadia Noori, and I** explain the evolution of mashups (applications created by end-users through "mixing and matching" data and services on the web) through the lens of speciation. We make visible how mashups can be "derived" from one another. This approach offers insights into future trends, can suggest templates to users upon which new mashups may be built, and can help identify opportunities for new types of tools.

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**Antonio Misaka**, recent graduate of Carleton University's Technology Innovation Management program, describes an approach for speeding up the development of web applications in the same domain using a configurable platform. The article deals with evolution of a different kind, namely, how requirements from business owners and technologies of the underlying components evolve with each new application. Instead of the traditional "clone-and-own" approach, Misaka suggests that companies create a configurable platform that addresses the common needs of the applications.

**Derek Smith**, founder and principal of Magneto Innovation Management, reviews the literature on risks related to the entry and participation in business ecosystems, and makes recommendations for entrepreneurs on how to manage those risks. He identifies three types of risks: i) risks related to the type of ecosystem, ii) risks related to interacting in an ecosystem, and iii) risks related to changes to and evolution of an ecosystem.

The issue is rounded out with a summary of the April TIM Lecture given by **Sorin Cohn** on the topic of enhancing competitive position through innovation beyond R&D.

**Michael Weiss**  
Guest Editor

### About the Editors

**Chris McPhee** is Editor-in-Chief of the *Technology Innovation Management Review*. Chris holds an MASc degree in Technology Innovation Management from Carleton University in Ottawa and BScH and MSc degrees in Biology from Queen's University in Kingston. He has over 15 years of management, design, and content-development experience in Canada and Scotland, primarily in the science, health, and education sectors. As an advisor and editor, he helps entrepreneurs, executives, and researchers develop and express their ideas.

**Michael Weiss** holds a faculty appointment in the Department of Systems and Computer Engineering at Carleton University in Ottawa, Canada, and is a member of the Technology Innovation Management program. His research interests include open source, ecosystems, mashups, patterns, and social network analysis. Michael has published on the evolution of open source business, mashups, platforms, and technology entrepreneurship.

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