

Policy Briefing Innovation

Canada's people and economy deserve the fast lane

Two key actions will be crucial: first of all, get as much 3500 MHz spectrum as possible to auction as quickly as possible; and secondly, deal with transition issues, i.e., pre-existing usage in this band.



Georg Serentschy

Opinion

There is a global race underway to deploy 5G networks and services that promise to fuel an exponential increase in digital opportunities and possibilities – an Industrial Revolution for the 21st Century. Until now, the introduction of each new generation of mobile technology came with improved features for connecting people faster and virtually everywhere: from voice telephony (2G), to 1st Gen data capabilities and broadband communication with enhanced speed and capacity (3G and 4G). However, 5G will be different: it is about connecting *everything*—people with people, people with “things” (physical goods), things with things—and these connections will enable communications at unprecedented speed and transmission capacity, all without perceivable delay. These features are the ingredients for the “Internet of Things” (IoT), Industry 4.0 (which will impact all elements of the value chain, from industrial planning, municipal planning, design, robotic production and logistic chains connecting different production sites), autonomous driving, remote health applications, and many other innovations that will improve the lives of Canadians.

The ability to transform a traditional economy swiftly and effectively into a digital economy is the key driver for a country's global competitiveness. This is the reason why governments all over the world have begun to recognize the importance of 5G, some of them faster than others. It's also why the 5G race is crucial to a country's future and prosperity. Like in every race, the relative speed among the contenders defines the demarcation line between leaders and laggards. 5G is a wake-up call for governments to get as much of the right spectrum deployed as rapidly as possible.

In order to realize the full promise of 5G and roll it out effectively, it is crucial to deploy spectrum bands with specific properties for different purposes; lower fre-

quency bands are required to cover large geographic areas, and very high frequencies are needed to transmit high volumes of data. In between is the 3500MHz band, the so-called “anchor band” for 5G. This band is of particular importance because it is the “working horse” for the applications and innovations described above. Without early availability of sufficient 3500MHz spectrum, a 5G rollout that exploits the full potential of the technology will not be possible and would result in a patchy network with a weak core.

The United States, as well as leading countries in Asia and Europe, have recognized the importance of 5G, and have worked to make as much spectrum available as quickly as possible, in particular the 3500MHz band. Awarding of the 3500MHz band in these leading countries has already taken place, or will happen early 2019. Unfortunately, Canada is far behind its global peers and is mired in a tempest in a teapot due to plaintive arguments about pre-existing uses for 3500MHz. It is not alone, as many countries are currently using 3500 MHz in ways that don't make efficient use of the band. For example, in Austria pre-existing regional broadband offers using certain parts of the 3500MHz band with an outdated technology. To unlock the full potential of 5G in Austria, the 3500MHz auction in early 2019 will make available all of the existing 3500MHz spectrum for new 5G purposes. This example demonstrates, that pre-existing uses can be resolved. A converse example is Switzerland: In this case, part of the 3500MHz band is blocked throughout the year for the TV transmission of a once-a-year bicycle race. Such an inefficient spectrum allocation creates artificial spectrum scarcity with negative effects, because auction prices tend to be significantly higher if available spectrum is artificially limited.

So what needs to be done in Canada to make sure it keeps pace with other countries and is positioned to take advantage of all that 5G has to offer? Two key actions will be crucial: first of all, get as much 3500 MHz spectrum as possible to auction as quickly as possible; and secondly, deal with transition issues, i.e., pre-existing usage in this band. As is the case in Austria and Switzerland, conflicts with pre-existing uses and new technologies are common in other countries across all spectrum bands, and all of these conflicts have a common solution in proper regulatory oversight, typically within a transition period. It is critical to Canada's success that transitional issues not be allowed to linger for years and cause the country to fall even farther behind in the 5G race. As stated, the potential impact 5G will have on the economy is unprecedented, and as 3500 MHz spectrum is the catalyst for this change, regulators need to act quickly and decisively to ensure a sufficient amount is available to fuel Canada's digital transformation.

Taking back spectrum that is used partially or in a less efficient manner (such as with outdated technology) and redistributing it for a higher purpose is the best path Canada can follow. On the road to 5G, Canadians need to ride in the fast lane in order to maintain competitiveness and catch up to leading 5G countries.

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While in this role, he served as chairman of the Body of European Regulators for Electronic Communication (BEREC) in 2012, and vice-chairman in both 2011 and 2013. He has also held the position of Head of the Austrian Competence Centre Internet Society (KIG), a governmental advisory body.

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