

Intelligence MEMOS



From: Benjamin Dachis and Jacob Kim
To: Innovation-Attentive Canadians
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Re: **HOW CALGARY (QUIETLY) TOOK THE LEAD AS CANADA'S INNOVATION LEADER**

Which is the most innovative city in Canada? Calgary now has the crown, by one of the most universal ways of measuring such things: patent applications. And it's happened with none of the fanfare that accompanied the rise of previous tech hubs, such as Ottawa or Waterloo.

Here's the untold story of how Calgary rose to become Canada's innovation leader. (Hint: it meant companies leading the way, and finding ways to work together.)

Innovation is in many ways intangible, and difficult to measure. Aggregate measures of patent filings in Canada are one of our few indexes. So we collected detailed data on the roughly 750,000 patents filed from 1997 through 2015.

Back in the 1990s, Ottawa led the nation when Nortel was the great telecom gear innovator of its time. Inheritor to Bell Northern Research, its research arm helped the city of one million file about 600 patents a year. But Nortel blew up in the dot-com bubble and formally recorded innovation in Ottawa has fallen sharply.

Research in Motion then invented the Blackberry in Waterloo and took its place as Canada's tech darling. The company still holds many of the key patents in mobile computing, but its decline means that patent applications in the Waterloo region have fallen with the firm's fortunes.

In 2015, our most recent year for reliable data, Calgary overtook Waterloo. That likely won't surprise many Calgarians who see the innovations from their friends and neighbours, but may come as a shock to the rest of Canada who don't know that Calgarians filed for three times as many patents per capita as those in the rest of Canada.

What's behind Calgary's rise?

Starting in the mid-2000s, the number of patents filed in the areas of rock drilling, according to the [broad patent technology classification](#), soared. A close look at these patents shows that many are in the oil sands, and not hard-rock drilling. (The entire concept of producing oil sands was not a part of patent classification.)

Getting usable oil out of the oil sands at commercially viable costs is a widely unrecognized feat. Going back to the 1960s and 1970s, the oil sands were an unaffordable pot of gold. Innovations – both simple and sophisticated – drove down costs to make the oil sands what they are today.

Many people think that innovation is about the newest phone feature or coolest app. Innovation is also about the lowest cost way to get access to oil, or a new way to reduce emissions. And here is a bonus from Calgary's patent bloom: the technological achievements are yet to fully bear fruit.

Another advantage for Calgary is that its innovation boom does not belong to one dominant company. Competition between oil producers seems to be driving some innovation, such as the use of solvents to cut costs. So is cooperation, through [Canada's Oil Sands Innovation Alliance](#) (COSIA), under which oil sands producers are working to deliver improved environmental performance for all member companies.

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