

**Written Submission for the Pre-Budget
Consultations in Advance of the 2019 Budget**

**By: Robert Thirsk
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Recommendation 1: That the government implement the six recommendations of the ISED Space Advisory Board's 2017 report.

Recommendation 2: That the government approve the Canadian Space Agency's new space strategy and restore adequately funding of the Agency as a means to stretch our national capabilities and rally our citizens.

Canada is a nation founded by explorers. The exploits of these early-day heroes have become vital threads of Canada's national fabric. As a child, I enjoyed reading their biographies - stories of our indigenous people, Vikings, Champlain, La Vérendrye, Mackenzie, Thompson and others. The stories featured tales of discovery and admirable personality traits - vision, perseverance, courage, ambition, decisiveness - traits that distinguished early Canadians from other world citizens.

Exploration, and particularly the exploration of space, became important to me. I was inspired as a youth by a TV broadcast of a US president who declared that we explore space "not because it is easy, but because it is hard."

Not because it is easy, but because it is hard! Now that was a statement that caught my attention. It well described the mindset of the early Canadian explorers as well as of the modern-day astronauts who were venturing to the moon. From that formative moment listening to a TV broadcast, I began to fashion an educational path that would lead to a career in space and that would challenge the best of my energies and skills.

I was fortunate and fulfilled - my eventual career took me to the limits of my physical, intellectual and emotional being on a regular basis. I was proud to be a Canadian and proud of our national space program.

Today, as a former astronaut, I continue to advocate for a Canadian role in space exploration. Such a role bolsters national pride, economic benefits, scientific payoffs and new technologies. Besides its pragmatic benefits, space exploration also motivates students in their STEM studies and inspires our society to take on audacious challenges – perhaps its greatest value.

The spirit of exploration that characterized our young nation must be preserved and nurtured. It is a basic human instinct. I fear, however, that our present-day drive to explore is waning. Due to societal changes over the last decades, I sense that we are losing a critical core competence that once provided Canada with a competitive edge in the global economy and that distinguished our culture.

To remain a productive and innovative nation playing a significant role on the world stage, Canada needs to nurture modern day explorers and a national culture that pushes back 21st century frontiers. I note, however, that Canada no longer pulls its weight in the world space community. Our minimal contributions to recent international programs gives us little voice around the table. It would be an exaggeration to say that Canada plays a consistent leadership role in world space affairs. We have become followers.

I was privileged to pursue a satisfying career in space when Canada had a vigorous, successful program that inspired the public. This golden era no longer exists. Our national space program is surviving, but not thriving. Our recent achievements in space have been good, but not audacious.

I spend much of my time now nurturing the next generation of young space leaders. I wish to provide these modern-day explorers in our high schools and universities with the same aspirations and opportunities that I had when I was young. But it is heartbreaking for me to hear that our young leaders are unable to find career challenges that match their impressive abilities. The best and brightest are leaving Canada to follow their space dreams elsewhere. We are slowly losing national capacity.

I recommend that the government of Canada restore support for and pride in our national space program. Allow Canada to regain its role as a credible leader within the international space community – a role that matches our heritage as a nation of daring explorers.

Specifically, I recommend that the government:

- implement the six recommendations of the ISED Space Advisory Board's 2017 report, and
- approve the Canadian Space Agency's new space strategy and restore adequately funding of the Agency as a means to stretch our national capabilities and rally our citizens.

The first human exploration missions to Mars will take place in the 2030s. This means that the astronauts who will participate in those mission are alive today and probably in high school or university. We have an obligation to prepare these people for those daunting voyages by

advancing the requisite knowledge, skills and attitudes in our national space program.

If there is one country in the world that should know something about exploration, it should be Canada. Let's ensure that our role is significant, our voice is heard, and our astronauts are present when the space faring nations explore deep space in the coming decades.