

# **NOTE FOR NATIONAL DEFENCE:** Canadian Defence Policy for Space

## Authors: P. Yazdjerdi<sup>1</sup> and K. Khorasani<sup>2</sup>

<sup>1</sup> Graduate Student, Department of Electrical and Computer Engineering, Concordia University, Montreal, Canada

<sup>2</sup> Professor, Department of Electrical and Computer Engineering, Concordia University, Montreal, Canada

## SUMMARY

- **4** The Canadian defence space program and its historical considerations are discussed.
- A number of issues and challenges with the current space policy are discussed and suggestions and recommendations and ideas to overcome these concerns are provided.

## CONTEXT

- Canada initiated force for space-based research and development in order to achieve military objectives in the beginning of Cold War timeframe [1].
- Canada had a successful satellite launch in 1962, which was motivated by defence program, is considered as one of the most significant achievements in the Canadian history.
- There exist several examples of initial impact of space defence program in history such as Black Brant rocket program [2], cooperation with US space detection and tracking system [3], among others.
- Existence of joint projects between US and Canada and the initial impact of space defence program, highlights the need for policy consideration.
- The civilian sector projects attain more interest while defence space sector projects are left behind. Policy makers should consider the loss of defence space projects due to the proliferation of a number of active countries in the space sector.
- Department of National Defence is aimed to ensure security of the outer space. To achieve this aim, it is important to predict the future requirements and consider them in the defence space policy determinations.
- ↓ National and inter-departmental cooperation is necessary to achieve a successful defence policy.

- There exist many challenges in defining the space policy. For instance, actions in the outer space are not articulated so there is a question of "what" and "how" to be able to define efficient space policy.
- Also, high dependence of defence and military operations and systems on outer space to ensure the national security is increasing the sensitivity, and introduce challenges in defining space policy.
- The Canadian space goals are under-prioritized and are regarded as unaffordable which indicate the requirement of change in the space related policies and projects [1].

### CONSIDERATIONS AND DISCUSSIONS

- New space policies are required for long-term capabilities to support strategic plan and guide the relevant partners for whom space is a vulnerable dependency.
- New strategies should be expected by policy makers in the space domain because the opportunities and vulnerabilities in the space are changing rapidly. The release of space policy framework could represent as an initial intent in this respect.
- Defence space sector requires leadership from the highest levels of government and more resources should be allocated to the defence space considerations.
- Defence space policy requires national considerations and should be integrated with civil and security-oriented space strategies.
- The importance of space to national security and military operations are well-known to policy makers. The most important of this is to highlight the challenges, opportunities and vulnerabilities of space and their fast rate of change.
- According to some research, it is estimated that each Canadian is performing a space-related task between 20 to 30 times per day which indicate the high dependency to the space [4].
- One of the main challenges in defining space policy is the rapid proliferation of space capabilities within a nation and internationally.
- The lack of Cold War military is another issue for space policy for countries with limited recourses and capabilities given that they are subordinated to other nations.

### **Future Work and Conclusion**

- Challenges and drawbacks of the current space policy is studied from very general point of view. More detailed perspectives will be provided in future reports.
- More detailed investigation will be conducted in future reports to study the role of NORAD in the space policy and defence.

### REFERENCE

[1] Major J.P. Kutryk, Canadian Defence Policy and National Interests in Space: An Opportunity For<br/>InterdepartmentalCooperation(2014).Availableathttps://www.cfc.forces.gc.ca/259/290/301/286/kutryk.pdf

[2] J.H. Chapman, et al., Upper Atmosphere and Space Programs in Canada, 56.

[3] T.A. Spruston, "Science and Politics: The Evolution of Canadian Space Policy," (Canadian Forces College Information Resource Centre Archived Paper, Canadian Forces College, 1976), 51.
[4] Space Working Group, Space Working Group Report Submitted to the Aerospace Review.