Establishing the Philippine Space Agency and Policy: Best Practices and Learnings for Other Emerging Space Nations

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The Democratization of Space

The number of countries with national space programs has greatly increased in the past 60 years.

In the past five years alone, eight countries have established their national space agencies.

LATEST (August 2019)

Philippine Space Agency (PhilSA)
Towards the Creation of a Philippine Space Agency

- Survey of infrastructure and human assets currently available in the country;
- Analysis of foreign space programs and policies;
- multi-sectoral stakeholder consultation on the proposed space policy;
- first technical cooperation with Japan for the development and launch of two (2) micro satellites;
- develop a cost-benefit analysis and establish key space roadmaps and agenda
- foster international cooperation and partnerships
- lobbying and proposing to politicians and decision-makers;
National SPACE Development Program

The National SPACE Development Program is a DOST-PCIEERD funded program tasked to lay the groundwork and necessary infrastructure necessary prior to the creation of the Philippine Space Agency. The NSDP also conducted a cost-benefit study of a long-term Philippine space program and establish the potential ROI and benefits created.

National Space Research and Development Agenda
- identifies the priority research areas for space science and technology development;

Satellite Development Roadmap
- states the various satellite that the Philippines will develop over the next 10 years based on the needs of stakeholders from government, academe, industry and defines sectors;
- initial proposal to launch five (5) satellites within the next 10 years;

Satellite Data Sharing and Management Policy
- establishes the satellite data sharing protocol among key stakeholders;
- identifies the Philippine Space Agency as the primary government agency for satellite data acquisition and distribution;

Space Industry Development Roadmap
- identifies the four niche areas for Philippine space development, namely space sub-systems production, satellite AIT, space applications and services and, launch vehicle services;
Space Agency and Policy Legislation

- Sept. 15, 2016  **HB 3637** was filed by Cong. Erico Aristotle Aumentado (Bohol 2nd) and Cong. Seth Frederick P. Jalosjos (Zamboanga 1st)

- Nov. 7, 2016  **HB 4275** was filed by Cong. John Marvin “Yul Servo” Nieto (Manila 3rd) and Cong. Edward Vera Perez Maceda (Manila 4th)

- Nov. 14, 2016  **HB 4367** was filed by Cong. Joey Sarte Salceda (Albay 2nd)

- Dec. 6, 2016  **HB 4623** was filed by Cong. Maximo Rodriguez Jr. (CDO 2nd)

- Mar.-Aug. 2017  Three **Technical Working Group (TWG)** Meetings by Congress was conducted, including ocular visit to future site.

- Aug. 2017  **Benchmarking visit to JAXA** conducted by PH Congressmen

- Dec. 4, 2018  **HB 8541** was passed by Congress on its Third and Final Reading.
Space Agency and Policy Legislation

- Oct. 18, 2016  
  **SB 1211** was filed by Sen. Paolo Benigno “Bam” Aquino IV

- Dec. 16, 2016  
  **SB 1259** was filed by Sen. Loren Legarda

- Aug. 29, 2017  
  **SB 1572** was filed by then Senate Majority Floor Leader Vicente Sotto III

- Sept. 10, 2018  
  **SB 1983** was sponsored to the Senate Plenary by Sen. Paolo Benigno “Bam” Aquino IV

- May 20, 2019  
  **SB 1983** was approved by Senate on its Third and Final Reading
HB 8541 was passed by Congress on its Third and Final Reading. A total of 39 congressmen authored the bill and voting results was 207-0-0.

SB 1983 was passed by Senate on its Third and Final Reading. A total of 3 senators authored the bill and voting results was 18-0-0.

The Bicameral Committee Report for HB 8541 and SB 1983 were both ratified by the House and Senate.
RA 11363: Philippine Space Act

Establishes the creation of the Philippine Space Agency and Philippine Space Development and Utilization Policy

Signed by President Rodrigo Duterte on August 8, 2019 and published in the Official Gazette on August 14, 2019

The PhilSA “is hereby established as the central government agency addressing all national issues and activities related to space S&T applications.” (Section 6)

The PhilSA shall be the primary policy, planning, coordinating, and administrative entity of the Executive Branch of the government that will plan, develop, and promote the national space program in line with the Philippine Space Policy. (Section 7)
**Philippine Space Development and Utilization Policy**

**Section 5:** The PSDUP serves as the country’s primary strategic roadmap for national space development in the next decade focusing on areas of space science and technology applications that would address national issues and concerns. The Policy focuses on six (6) **Key Development Areas:**

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<tr>
<th>Key Development Area</th>
<th>Description</th>
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<tbody>
<tr>
<td><strong>NATIONAL SECURITY AND DEVELOPMENT</strong></td>
<td>“The Philippines will focus on space applications that can preserve and enhance the country’s national security and promote development that is beneficial to all Filipinos.”</td>
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<tr>
<td><strong>HAZARD MANAGEMENT AND CLIMATE STUDIES</strong></td>
<td>“The Philippines will develop and utilize space science and technology applications to enhance its hazard management and disaster mitigation strategy as well as ensure the nation’s resiliency to climate change.”</td>
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<tr>
<td><strong>SPACE RESEARCH AND DEVELOPMENT</strong></td>
<td>“To spur rapid scientific growth, the Philippines will focus on conducting research and development endeavours in vital areas of space science, technology and allied fields.”</td>
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<tr>
<td><strong>SPACE INDUSTRY CAPACITY BUILDING</strong></td>
<td>“The Philippines will create a robust and thriving space industry to support the country’s space program through private sector involvement and cooperations.”</td>
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<td><strong>SPACE EDUCATION AND AWARENESS</strong></td>
<td>“The Philippines aims to establish a sustainable pool of trained space scientists, engineers and communicators that will be critical for the country’s future space program and increasing public awareness on its value and benefits.”</td>
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<td><strong>INTERNATIONAL COOPERATION</strong></td>
<td>“Through international partnerships and collaborations, the Philippines will become a key player in the ASEAN and global space community by providing significant contributions and capabilities on space science and technology applications.”</td>
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The Philippine Space Agency

Section 8: Powers and Functions
The PhilSA shall exercise the following powers and functions:

1) Policy, Planning and Coordination
2) Improved Public Access and Resource Sharing
3) Research and Development
4) Education and Capacity Building
5) Industry Development
6) International Cooperation

Section 9: The PhilSA shall be an *attached agency of the Office of the President* for purposes of policy and program coordination, to ensure alignment in national policies and priorities.

Section 17: Official Site of the PhilSA
A land area equivalent to at least thirty (30) hectares out of the area of lands which are under the administration of the Bases Conversion and Development Authority (BCDA) within the Clark Special Economic Zone in Pampanga and Tarlac, shall be allocated exclusively for the PhilSA office and its research facilities: Provided, That the PhilSA shall establish additional offices, research facilities and launch sites in strategic areas as it may deem necessary:

Sections 20-22 and 25: The PhilSA shall have an initial annual budget of P1 Billion Pesos ($20M) and a Philippine Space Development Fund amounting to P10 Billion Pesos ($200M) shall be allocated over the next five years.
Space Research & Development Agenda

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<th>Research Cluster</th>
<th>Development Areas</th>
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<td>Earth Observation for the Environment</td>
<td>Meteorology and Climate Change, Oceanographic Monitoring, Agriculture and Fisheries, Environmental Monitoring, Disaster Assessment and Risk Monitoring, GNSS Utilization, Space Weather and Solid Earth Dynamics,</td>
</tr>
<tr>
<td>Space Science and Innovation</td>
<td>Observational Astronomy, Computational Astrophysics, Ethnoastronomy, Microgravity Experiments, Space Exploration, Emerging Technologies</td>
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Satellite Data Sharing Policy

**Satellite Data Procurement.** The Philippine Space Agency shall function as the clearinghouse of all satellite data of the Philippine government to avoid duplication; government agencies/institutions will be requested to submit annual satellite data plans for consolidation.

**Satellite Tasking and Operations:** Data to be tasked according to the purpose of the satellite and the priorities consistent with NSDUP and SRDA; operations and management of Philippine satellite will be under the Philippine Space Agency.

**Open Access:** Satellite data shall be made available to the government agencies and the public, generally free of charge; however, the data to be pre-screened for security and technological protection measures shall be implemented; Foreign states and companies on a formal agreement.

**Standards and Interoperability:** Datasets shall be stored and distributed in open standards and formats consistent with Philippine government and international standards;

**Commercial:** Commercial entities shall observe the terms and conditions as part of the agreement; Royalty fee will be paid to the Philippine Space Agency.
Recommendations for Emerging Space Nations

Conduct a baseline study/assessment of the existing space assets, infrastructure and capabilities within the country.

Analyze the space policies and programs of other countries and assess which ones are suitable to your own country.

Involve various agencies and sectors that can benefit from space technology and applications in crafting the space policy.

Have a small but dedicated team to do most of the legwork (e.g. consultations, meetings, lobbying etc.) in crafting the policy and roadmaps.

Have a long-term perspective on space development but take into account the short-term political situation.

Educate politicians and decision-makers on the value and benefit of having a national space program by considering what are the pressing national issues.

Have minimal public exposure initially (fly under the radar) until most of the plans are already laid down, then ramp it up to gain public support.

Cooperate with other space-faring and space-emerging nations for technology exchanges and human resources capacity building (north-south, south-south cooperation).

Include space law and policy in developing a national space program (not just space technology).

BE PREPARED FOR THE LONG AND BUMPY RIDE!!!
“If you want to go fast, go alone.
If you want to go far, go together”
-African Proverb

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