Asia-Pacific Regional Space Agency Forum (APRSAF) Task Force

**FINAL REPORT**

*Executive Summary*

At its eighteenth session, Asia-Pacific Regional Space Agency Forum (APRSAF) endorsed the establishment of a task force, consisting of organizations having experience with APRSAF sessions, to consider the continuous success of APRSAF and ways and means to make APRSAF more dynamic.

The present document contains the final report of the APRSAF Task Force, including its recommendations and accounts of its work conducted, to be submitted to APRSAF-19.

The Task Force recommends the establishment of an Executive Committee of APRSAF, consisting of five past, present and future host organizations of APRSAF annual sessions and working group representatives, to uphold principles and help achieve objectives and implement decision by APRSAF.

The functions and responsibilities of the Executive Committee shall be to review and provide inputs to the programme of the annual session, provide guidance to the working groups and propose or review proposals of and support new initiatives. The Executive Committee should, as part of its work, develop and refine a long-term vision of APRSAF, building upon the set of elements identified by the Task Force for inclusion in the vision. The Executive Committee should also consider realizing ideas presented in the Task Force, such as developing guidelines for working groups and establishing awards to recognize contributions by organizations or groups of individuals to APRSAF.

The Task Force proposes introducing a set of guidelines for initiatives, including the process to submit, review and approve proposals for new initiatives. For implementation in the nearest future, the Task Force recommends determining the venues of APRSAF annual sessions two sessions in advance, encouraging countries other than the host country and Japan to provide co-chairs of the working groups and inviting eminent researchers or high-skilled experts to deliver lectures at APRSAF annual sessions.
The Task Force also proposes that the Executive Committee should further develop the long-term visions of APRSAF, including the following elements:

i) APRSAF should serve as a practical mechanism for regional engagement on space issues and achieving recognition for this role with the appropriate international stakeholders;

ii) APRSAF should continue providing a forum for space agencies in the region to share information and to provide a framework for the conduct of activities and projects of mutual interest;

iii) APRSAF should launch a substantive “capstone” regional cooperative project.
I. **Introduction**

1. At its eighteenth session, Asia-Pacific Regional Space Agency Forum (APRSAF) endorsed the establishment of a task force, consisting of organizations having experience with APRSAF sessions, to consider the continuous success of APRSAF and ways and means to make APRSAF more dynamic, with a view of making recommendations to APRSAF 19.

2. Following the recommendation of APRSAF-18 as mentioned in paragraph 1 above, the Task Force convened its inaugural meeting on 27 February 2012, in Bangkok. At that meeting, the Task Force agreed upon its terms of reference as contained in Annex I.

3. At the first meeting, it was agreed that the objectives of the Task Force should be to:

   i) Suggest a set of measures that would make APRSAF more dynamic and that would lead to the involvement of more participating countries and organizations of APRSAF in its work, while preserving the strength of APRSAF and ensuring its continuous success; and

   ii) Document the principles of APRSAF and its established practices that have served as the strength of APRSAF and should, therefore, be maintained; also establish guidelines and rules, where required, concerning the conduct of work and activities of APRSAF.

4. Pursuant to the terms of reference of the Task Force, its membership consisted of the following agencies and organizations (in the alphabetical order of the country's name):

   i) Department of Innovation, Industry, Science, Research and Tertiary Education (DIISRTE), Australia;
   
   ii) Indian Space Research Organisation (ISRO), India;
   
   iii) National Institute of Aeronautics and Space (LAPAN), Indonesia;
   
   iv) Japan Aerospace Exploration Agency (JAXA), Japan;
   
   v) National Space Agency of Malaysia (ANGKASA), Malaysia;
   
   vi) Korea Aerospace Research Institute (KARI), Republic of Korea;
vii) Centre for Remote Imaging, Sensing and Processing (CRISP) of the National University of Singapore, Singapore;
viii) Singapore Space and Technology Association (SSTA), Singapore;
ix) Geo-Informatics and Space Technology Development Agency (GISTDA), Thailand;
x) Vietnam Academy of Science and Technology (VAST), Vietnam

5. The list of representatives of the member agencies and organizations who have participated in the work of the Task Force is contained in Annex II.

6. The Task Force held 3 meetings and 3 teleconferences under the chairmanship as indicated below:

<table>
<thead>
<tr>
<th>Dates</th>
<th>Venue</th>
<th>Hosted by</th>
<th>Chaired by</th>
</tr>
</thead>
<tbody>
<tr>
<td>27 February 2012</td>
<td>Bangkok, Thailand</td>
<td>GISTDA</td>
<td>Takayuki Kawai (JAXA)</td>
</tr>
<tr>
<td>27 March 2012</td>
<td>Multiple (teleconference)</td>
<td>JAXA</td>
<td>Takayuki Kawai (JAXA)</td>
</tr>
<tr>
<td>1 June 2012</td>
<td>Multiple (teleconference)</td>
<td>JAXA</td>
<td>Takayuki Kawai (JAXA)</td>
</tr>
<tr>
<td>28-29 August 2012</td>
<td>Denpasar, Indonesia</td>
<td>LAPAN</td>
<td>Chris Dewanto (LAPAN) and Takayuki Kawai (JAXA)</td>
</tr>
<tr>
<td>3 December 2012</td>
<td>Multiple (teleconference)</td>
<td>JAXA</td>
<td>Takemi Chiku (JAXA)</td>
</tr>
</tbody>
</table>

7. At its first meeting, the Task Force identified the following priority areas to focus its work. In order to develop proposals for possible new measures to be introduced concerning those areas, the Task Force members were divided into four teams as below. At a subsequent teleconference, the leading agency was identified for each team as below.

<table>
<thead>
<tr>
<th>Team</th>
<th>Priority area</th>
<th>Responsible members</th>
</tr>
</thead>
<tbody>
<tr>
<td>Team A</td>
<td>Establishment of an Executive Committee</td>
<td>ANGKASA*, JAXA</td>
</tr>
</tbody>
</table>


<table>
<thead>
<tr>
<th>Team</th>
<th>Priority area</th>
<th>Responsible members</th>
</tr>
</thead>
<tbody>
<tr>
<td>Team B</td>
<td>Guidelines for initiatives</td>
<td>JAXA*, LAPAN, STI/VAST</td>
</tr>
<tr>
<td>Team C</td>
<td>Long-term visions of APRSAF</td>
<td>DIISRTE*, GISTDA, SSTA</td>
</tr>
<tr>
<td>Team D</td>
<td>Short-term actions for introduction in the near term</td>
<td>KARI*, CRISP</td>
</tr>
</tbody>
</table>

*Lead agency for the team.

8. At its 3rd. meeting, on 11 December 2012, the Task Force finalized its report, containing its findings and recommendations as set out below.

II. Findings and Recommendations

A. *Principles of APRSAF*

9. At its first meeting, the Task Force agreed that it was important to maintain those elements that have served as the strength of APRSAF and have prevailed in the activities of APRSAF in order to ensure its continuing success. The Task Force identified such elements, which could serve as the “principles” of APRSAF

10. The Task Force agreed upon the “Principles of APRSAF” as contained in Annex III.

B. *Organization and operation of APRSAF: established practices*

11. In order to identify ways and means to improve the organization and operation of APRSAF, the Task Force reviewed the practices that had been carried out over the past years in the following areas: i) structure of APRSAF and its pattern of meetings; ii) initiatives; iii) membership; iv) chairmanship; v) co-organizers and their functions; vi) secretariat functions; vii) decisions and agreements; and viii) official language.

12. The Task Force identified the established practices that had been followed by APRSAF over the past years in its organization and operation and that should continue without prejudice to future decisions to be made by APRSAF. Those practices are compiled in Annex IV.
C. **Introduction of measures to improve the organization and operation of APRSAF**

1. **Establishment of an Executive Committee**

13. The Task Force expressed its appreciation to ANGKASA and JAXA for preparing a proposal to establish an Executive Committee. The proposal submitted to the Task Force and revised reflecting its comments is contained in Annex V.

14. Based on the proposal submitted by ANGKASA and JAXA, the Task Force recommends the establishment of an Executive Committee of APRSAF, immediately following its nineteenth session (APRSAF-19), in order to help accomplish its objectives while upholding its principles and to provide oversight over its operation.

15. Regarding the functions and responsibilities of the Executive Committee, the Task Force agreed that the Executive Committee should:
   a) plan, monitor and promote programs, through coordination of the APRSAF annual session agenda and inputs to the meeting, in upholding the principles of APRSAF;
   b) help accomplish general objectives and decisions of APRSAF, through provision of recommendations and the oversight over its operation;
   c) guide, facilitate, organize and provide directions to the APRSAF Working Groups and any APRSAF activities;
   d) plan, discuss, review, propose and/or support proposals of new initiatives.

16. The Executive Committee shall consist of two categories of members: (a) up to five members from the immediate past, present and confirmed future co-organizers of APRSAF; and (b) a representative of each working group, who would serve a maximum term of 4 years. The membership of the Executive Committee shall be confirmed at the APRSAF annual plenary.

17. Concerning its officers, the Task Force agreed that the Chair and Vice-Chair organizations serving on the Executive Committee shall be elected from among its 5 member organizations, mentioned in paragraph 16 above and shall serve their two-year terms. The Chair and Vice-Chair may be re-elected, but shall not serve more than two consecutive terms in the same office.
18. The Task Force also agreed that any replacement or change of a member organization of the Executive Committee before the end of its term shall be approved by the Executive Committee, taken into consideration the proposal to be made by the member organizations leaving the Executive Committee.

19. As for the inaugural membership of the Executive Committee, the Task Force recommends the following organizations: JAXA, ANGKASA, CRISP, STI/VAST and the organization that could confirm its offer to host APRSAF annual session in 2014. The term of those organizations should be until the adjournment of APRSAF-21, in 2014. The Task Force noted that KARI had expressed its interest in becoming a potential candidate for co-host of the session in 2014.

2. **Guidelines for initiatives**

20. The Task Force expressed its appreciation to JAXA, LAPAN and STI/VAST for preparing a proposal to establish guidelines for initiatives. The proposal submitted to the Task Force and revised reflecting its comments is contained in Annex VI.

21. Based on the proposal submitted by JAXA, LAPAN and STI/VAST, the Task Force proposes the guidelines for initiatives to be established as provided below:

a) **Definition of the initiative**

The initiative is a project that is launched from APRSAF, which is a forum. As a project, an initiative needs to develop its terms of reference (ToR), which, among other things, define its membership and roles and responsibilities of its members, and it should be implemented in accordance with its ToR.

b) **Relationship between APRSAF and initiatives**

Any initiative is undertaken within the framework of APRSAF and should, therefore, report on its progress every year to APRSAF at its annual session. It should also submit its final report to APRSAF when it
is completed. Any initiative may seek for advice from APRSAF when something beyond its capacity occurs.

c) **Required elements for initiatives**
   As general guidelines, the initiative should:
   i) Address the common interests of the region of Asia and the Pacific;
   ii) Meet the societal needs of the region;
   iii) Share its results in the region; and
   iv) Be implemented through regional collaborative efforts, rather than bilateral efforts.

Specific guidelines could be developed in the future based on the compilation of practices reflecting distinctive characteristics of each initiative.

In addition to sharing the results of the initiative among its members, its general results that may be useful for the region should be shared at scientific workshops to be organized by the initiative or APRSAF. Consideration should also be given to providing training opportunities within the framework of each initiative.

d) **Procedure for submitting proposals, conducting their reviews and endorsing their implementation**

i) Development of proposals
   Proposals are, in general, developed through working groups. Any organization participating in APRSAF but not in any working group may, however, develop a proposal irrespective of its technical capability and resources. An Executive Committee to be established may also propose new initiatives.

ii) Submission of proposals
   A proposal for a new initiative should be submitted, using the form contained in Appendix 2 of Annex VI, to the working group whose work is closely related to the subjects addressed in the
proposal. A proposal could also be submitted to an Executive Committee to be established, when no appropriate working group exists review its contents. APRSAF Secretariat should provide its support to such organization not participating in any working group in submitting its proposal.

iii) Review of proposals
Upon receipt of the proposal, the working group or an Executive Committee to be established should review the proposal. The working group concerned should then submit the reviewed proposal, with its comments, to the Executive Committee for its further review.

The working group concerned or the Executive Committee may provide advice to the organization that has submitted the proposal and may request for revising the proposal, to ensure that it follow the general guidelines of initiatives

iv) Endorsement of initiatives
An Executive Committee to be established should conduct the final review of a proposal and should submit it together with its comments, to APRSAF annual session for endorsement.

3. Long-term visions of APRSAF

22. The Task Force expressed its appreciation to DIISRTE, GISTDA and SSTA for preparing a proposal concerning long-term visions of APRSAF. The proposal submitted to the Task Force and revised reflecting its comments is contained in Annex VII.

23. On the basis of suggestions and observations contained in the proposal, the Task Force agreed that a long-term vision should reflect the following set of elements.

a) Establishing APRSAF as a practical mechanism for regional engagement on space issues and achieving recognition for this role with the appropriate international stakeholders
i) APRSAF should serve as a regional coordination and advocacy body in relation to selected international activities of interest to APRSAF participating organizations, such as Group on Earth Observations (GEO), Committee on Earth Observation Satellites (CEOS), International Committee on Global Navigation Satellite Systems (ICG), United Nations Committee on the Peaceful Uses of Outer Space (UN COPUOS) and the International Astronautical Federation (IAF):

ii) APRSAF should serve as the recognized space coordination forum in support of common regional activities through intergovernmental bodies.

b) Continuing to provide a forum for space agencies in the region to share information and to provide a framework for the conduct of activities and projects of mutual interest

c) Launching a substantive “capstone” regional cooperative project

Such regional cooperative project should be impactful enough to be recognized globally and should be a sustainable Asia-Pacific initiative that binds countries with space activities in the region in common interests.

24. On the decision-making by APRSAF, the Task Force recommends to continue the practice of making decisions through consensus of participating organizations at the APRSAF annual session, which has been effective to date.

25. As for the membership of APRSAF, the Task Force proposes to not define the membership, including responsibilities of participating organizations.

However, the Task Force recommends that the participating organizations of APRSAF should be open to participation in relevant APRSAF activities and share relevant information. The Task Force recommends to not formally constitute APRSAF such as by concluding a Memorandum of Understanding or a Treating setting out a range of matters, including those around membership, decision-making and member responsibilities.
26. The Task Force agreed that it is worthwhile to explore all possibilities of future roles of APRSAF and all relevant ideas presented before it. The Task Force, therefore, recommends that through an Executive Committee to be established, a long-term vision of APRSAF should be further developed and refined, building upon the set of elements recommended by the Task Force contained in paragraph 23 above.

4. **Other new measures for implementation in the near future**

27. The Task Force expressed its appreciation to KARI and CRISP for preparing a proposal concerning short-term actions to improve the organization and operation of APRSAF. The proposal submitted to the Task Force and revised reflecting its comments is contained in Annex VII.

28. Following discussions based on the proposal, the Task Force proposes the following set of actions for immediate implementation following APRSAF-19.

   a) **Determination of the venue of the APRSAF annual session two sessions in advance**

   - Following the announcement and approval of the venue of APRSAF-20 in 2013 at the plenary session of APRSAF-19, the proposed venue of APRSAF-21, to be held in 2014, should be communicated to APRSAF participating organizations for endorsement as soon as possible.
   - APRSAF Secretariat should establish a list of candidates for host organizations of future APRSAF annual sessions.
   - APRSAF Secretariat should establish a list of meeting requirements and any other necessary logistical arrangements for any country with interest in hosting a future annual session of APRSAF.

   b) **Chairmanship of the working groups**

   Co-chairs of the working groups may be identified not only from the host country and Japan, but also from among relevant experts from other countries with interest.
c) *Inviting an eminent researcher or expert to provide a lecture during APRSAF annual session*

Starting from APRSAF-20, in 2013, an eminent researcher or expert should be invited by the host country to give a lecture during the plenary session. Any participating organizations of APRSAF may recommend speakers to be invited to APRSAF-20.

29. The Task Force recommends that an Executive Committee to be established should further discuss the following ideas for possible implementation in the near future.

d) *Reorganization of and guidelines for working groups*

Consideration should be given to reviewing the work conducted by the existing working groups for their possible reorganization, in order to sufficiently address issues of common interest to the region, such as satellite-based navigation applications.

The Executive Committee should develop guidelines for working groups, including the requirements for establishing a new working group.

Any interested individuals and organizations participating in APRSAF may submit a proposal to the Executive Committee to form a new working group.

e) *Recognizing organizations or individuals that have contributed to APRSAF by presenting awards*

APRSAF could establish an award to recognize an organization or an individual each year for contributions made to advancing the objectives of APRSAF. Details of establishing such an award, including the selection and award criteria and the possibility of establishing a nomination committee, should be discussed by an Executive Committee to be established.
Annex I: Terms of reference of the APRSAF Task Force

APRSAF Task Force, at its first meeting, held on 27 February 2012, agreed upon its terms of reference as provided below and its indicative schedule of work as contained in Appendix.

A. Objectives

1. APRSAF Task Force shall suggest a set of measures that would make APRSAF more dynamic and that would lead to the involvement of more participating countries and organizations of APRSAF in its work, including the planning, management and organization of its annual sessions as well as the development of proposals for initiatives and their implementation and the identification of ways and means to better use APRSAF as a platform for regional cooperation, while preserving the strength of APRSAF and ensuring its continuous success.

2. The Task Force shall document the principles of APRSAF and its established practices that have served as the strength of APRSAF and should, therefore, be maintained. The Task Force shall also establish guidelines and rules, where required, concerning the conduct of work and activities of APRSAF.

B. Membership

3. The membership shall consist of the representatives of the agencies and organizations that have hosted APRSAF sessions in the past years or that will host the one in 2012, including the following (in the alphabetical order with abbreviations of the organizations’ names):

   i) National Space Agency of Malaysia (ANGKASA), Malaysia
   ii) Centre for Remote Imaging, Sensing and Processing (CRISP), National University of Singapore, Singapore
   iii) Department of Innovation, Industry, Science and Research (DIISR), Australian Government, Australia
   iv) Geo-Informatics and Space Technology Development Agency (GISTDA), Thailand
   v) Indian Space Research Organisation (ISRO), India
   vi) Japan Aerospace Exploration Agency (JAXA), Japan
   vii) Korea Aerospace Research Institute (KARI), Republic of Korea
   viii) National Institute of Aeronautics and Space (LAPAN), Indonesia
   ix) Singapore Space and Technology Association (SSTA), Singapore
   x) Vietnam Academy of Science and Technology (VAST), Vietnam
4. Any additional agencies and organizations may participate in the work of the
Task Force with the consensus agreement of the members listed in paragraph 3
above.

C. Term of the Task Force
5. The term of the Task Force will be up to the first plenary meeting of the next
APRSAF session, i.e. the 19th session of APRSAF.

D. Scope of work
6. The Task Force shall review and confirm the set of fundamental principles that
have served as the basis of APRSAF activities and resulted in the strength of
APRSAF. The Task Force shall then document those principles.

7. The Task Force shall review and identify the established practices in planning
and preparing for and organizing the annual session of APRSAF that should
continue. The Task Force shall then document those practices.

8. The Task Force shall review and identify other practices in planning and
preparing for and organizing the annual session of APRSAF that should be
improved and shall suggest specific measures that should be introduced for
improvement. The Task Force shall then document those measures.

9. The Task Force shall identify areas that require guidelines or rules to improve
the planning and preparations for or the organization of the annual session of
APRSAF. The Task Force shall also develop draft guidelines and rules in those
areas identified.

10. The Task Force shall consider and agree upon measures that should be
introduced to encourage and assist participating countries and organizations of
APRSAF to propose initiatives and to take the lead in their implementation.

11. The Task Force shall review the structure of APRSAF, including that of the
annual session as well as its secretariat, and shall suggest any modifications, as
necessary.
12. The Task Force will not consider the organization of work, contents of activities and terms of reference of any of the existing initiatives of APRSAF.

E. **Methods of work**
13. The Task Force shall meet at least twice during the inter-sessional period, between APRSAF-18 and APRSAF-19. The Task Force shall also meet on the margins of APRSAF-19 prior to the first day of the plenary to finalize its recommendations to APRSAF-19.

14. The Task Force will carry out its work in between the meetings through the exchange of electronic mails and telephone conferences, to review the progress made and to discuss any substantial matters.

F. **Secretariat of the Task Force**
15. Without prejudice to the interest of any member of the Task Force to serve as its secretariat, the Secretariat of APRSAF should provide secretariat support to the Task Force.

G. **Chairmanship of the Task Force**
16. The Task Force, including its teleconferences that might be held in between the face-to-face meetings, would be co-chaired by the representative of the host organization for the upcoming face-to-face meeting of the Task Force and the representative of JAXA.

H. **Resources**
17. The cost involved in the participation in the Task Force, including its meetings and telephone conferences, should be borne by each participant.

18. Notwithstanding the above, the Task Force will welcome any offer by its members to provide in-kind support to facilitate the organization of its meetings and teleconferences and to assist in the participation of the members.

I. **Schedule of work**
19. The Task Force shall agree on the schedule of its work at its first meeting.
Appendix: Indicative schedule of work of the Task Force

APRSAF Task Force agreed upon the indicative schedule of work as provided below.

<table>
<thead>
<tr>
<th>Dates</th>
<th>Work to be conducted</th>
</tr>
</thead>
<tbody>
<tr>
<td>27 February 2012</td>
<td>&lt;1st Meeting&gt;</td>
</tr>
<tr>
<td></td>
<td>- Review and confirm the objectives and scope of work of the Task Force;</td>
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<tr>
<td></td>
<td>- Agree upon the terms of reference of the Task Force.</td>
</tr>
<tr>
<td></td>
<td>- Review the current status of APRSAF.</td>
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<tr>
<td></td>
<td>- Confirm the principles of APRSAF and agree on the established practices that should continue.</td>
</tr>
<tr>
<td></td>
<td>- Identify the practices that should be improved and suggest specific measures to be introduced.</td>
</tr>
<tr>
<td></td>
<td>- Identify areas that require guidelines or rules to be established.</td>
</tr>
<tr>
<td></td>
<td>- Agree on the times and dates for the teleconferences as well as the date and venue of the 2nd Meeting.</td>
</tr>
<tr>
<td>End May - Beginning June 2012</td>
<td>&lt;2nd Meeting&gt;</td>
</tr>
<tr>
<td></td>
<td>- Document the principles of APRSAF and the established practices that should continue.</td>
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<tr>
<td></td>
<td>- Agree upon and document the specific measures that should be introduced.</td>
</tr>
<tr>
<td></td>
<td>- Prepare draft guidelines or rules to be established.</td>
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<tr>
<td></td>
<td>- Discuss and agree upon any modifications to be made to the structure of APRSAF.</td>
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<tr>
<td></td>
<td>- Prepare draft recommendations to APRSAF-19.</td>
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<tr>
<td></td>
<td>- Agree on the times and dates for the teleconferences as well as the final meeting.</td>
</tr>
<tr>
<td>11 or 12 December 2012</td>
<td>&lt;Final Meeting&gt;</td>
</tr>
<tr>
<td></td>
<td>- Finalize and adopt the report of the Task Force on its work, including its recommendations to APRSAF-19.</td>
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</tbody>
</table>
Annex II: List of representatives who have participated in the Task Force

<table>
<thead>
<tr>
<th>Country</th>
<th>Name</th>
<th>Position and Office</th>
<th>Organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>Dr. Michael Green</td>
<td>General Manager, Space Policy Unit</td>
<td>Department of Innovation, Industry, Science, Research and Tertiary Education (DIISRTE), Australian Government</td>
</tr>
<tr>
<td>India</td>
<td>Dr. V. K. Dadhwal</td>
<td>Director, National Remote Sensing Centre</td>
<td>Indian Space Research Organisation (ISRO)</td>
</tr>
<tr>
<td>India</td>
<td>Mr. V. Gopalakrishnan</td>
<td>Policy Analyst, Headquarters</td>
<td></td>
</tr>
<tr>
<td>Indonesia</td>
<td>Mr. Bambang S. Tejasukmana</td>
<td>Chairman</td>
<td></td>
</tr>
<tr>
<td>Indonesia</td>
<td>Ms. Ratih Dewanti Dimyati</td>
<td>Director, Cooperation and Public Relation Bureau</td>
<td>National Institute of Aeronautics and Space (LAPAN)</td>
</tr>
<tr>
<td>Indonesia</td>
<td>Mr. Chris Dewanto</td>
<td>Head, International Cooperation Division</td>
<td></td>
</tr>
<tr>
<td>Indonesia</td>
<td>Mr. Leo Rijadi</td>
<td>Head of Sub-Division, Public Relation and Cooperation</td>
<td></td>
</tr>
<tr>
<td>Indonesia</td>
<td>Ms. Noer Laela Sari</td>
<td>International Cooperation Division</td>
<td></td>
</tr>
<tr>
<td>Indonesia</td>
<td>Ms. Andriani Agustina</td>
<td>Cooperation and Public Relation Bureau</td>
<td></td>
</tr>
<tr>
<td>Indonesia</td>
<td>Mr. Happy Rumiris</td>
<td>Cooperation and Public Relation Bureau</td>
<td></td>
</tr>
<tr>
<td>Malaysia</td>
<td>Dr. Noordin Bin Ahmad</td>
<td>Deputy Director General</td>
<td>National Space Agency of Malaysia (ANGKASA)</td>
</tr>
<tr>
<td>Republic of</td>
<td>Mr. In’kyu Jeon</td>
<td>Senior Researcher, International Relations Team</td>
<td>Korea Aerospace Research Institute (KARI)</td>
</tr>
<tr>
<td>Korea</td>
<td>Dr. Chang-Ho Lim</td>
<td>Senior Researcher, International Relations Team</td>
<td></td>
</tr>
<tr>
<td>Singapore</td>
<td>Mr. Kwoh Leong Keong</td>
<td>Director</td>
<td>Centre for Remote Imaging, Sensing and Processing (CRISP), National University of Singapore</td>
</tr>
<tr>
<td>Singapore</td>
<td>Mr. Yun Wee Lau</td>
<td>Assistant Manager of Sales and Marketing</td>
<td></td>
</tr>
<tr>
<td>Country</td>
<td>Name</td>
<td>Position and Office</td>
<td>Organization</td>
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</tr>
<tr>
<td>Singapore</td>
<td>Mr. Jonathan Hung</td>
<td>President</td>
<td>Singapore Space and Technology Association (SSTA)</td>
</tr>
<tr>
<td></td>
<td>Mr. Ellis Tan</td>
<td>Business Development Executive</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ms. Jerfanie Lau</td>
<td>Senior Business Development Manager</td>
<td></td>
</tr>
<tr>
<td>Thailand</td>
<td>Dr. Darasri Dowreang</td>
<td>Advisor to the Executive Secretary</td>
<td>Geo-Informatics and Space Technology Development Agency (GISTDA)</td>
</tr>
<tr>
<td>Thailand</td>
<td>Dr. Thanomsri Rangsikanbham</td>
<td>Advisor to the Executive Secretary</td>
<td></td>
</tr>
<tr>
<td>Thailand</td>
<td>Ms. Raksina Lekthanoo</td>
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Annex III: Principles of APRSAF

The Task Force, at its first meeting, held on 27 February 2012, agreed upon the set of principles of APRSAF as amended at its second meeting, held on 28 and 29 August 2012 as below.

“APRSAF should be a forum for implementing space agencies to carry out collaborative activities based on the following principles.

1. **Goal**
   APRSAF aims to promote and expand space activities and their applications for socio-economic development in Asia and the Pacific.

2. **Objectives**
   The primary objectives of APRSAF are to:
   
   i) Provide a forum where agencies involved in space science, technology and its applications and international organizations in the Asia-Pacific region gather to exchange views, opinions and information on space programs, space resources and applications of space science and technology;
   
   ii) Identify and undertake measures to contribute to the sustainable socio-economic development in the Asia-Pacific region and the preservation of the environment through space technology and its applications;
   
   iii) Promote and expand mutually beneficial cooperation among space research and development agencies, providers of space-based services and products as well as users in the Asia-Pacific region in the priority areas of common interest, bearing also in mind the possibilities of cooperation with space-related entities outside the region.

3. **Approach**
   In order to attain its goal and objectives, APRSAF takes the following approaches:
   
   i) APRSAF provides an open and flexible framework for cooperation;
   
   ii) Participation in the activities of APRSAF is on a voluntary basis;
   
   iii) Projects launched by APRSAF address issues of common interest in the Asia-Pacific region and are implemented through concrete actions.
4. **Participation**

1. Participation in the meetings and other activities of APRSAF is open to agencies involved in space science, technology and its applications and governmental bodies, as well as companies, universities and research institutes in the region of Asia and the Pacific and international organizations.

2. Agencies involved in space science, technology and its applications and organizations based outside the region that support the objectives of APRSAF may also participate in APRSAF meetings and activities.”

* * *
Annex IV: Established practices of APRSAF

The Task Force, at its first meeting on 27 February 2012, reviewed the set of established practices of APRSAF, to have the basis for its further consideration of ways and means to improve the organization and operation of APRSAF. The Task Force agreed upon those practices that should continue as provided below, without prejudice to future decisions to be made by APRSAF.

1. **Structure of APRSAF and its pattern of meetings**
   a. APRSAF meets once a year. Its activities, however, are carried out throughout the year.
   b. The annual session of APRSAF takes place in a country that has offered to host the session and may vary from year to another.
   c. The structure of APRSAF includes the plenary, the working group(s) that address specific areas of space activities and the initiative(s) that carry out specific projects.
   d. The plenary and the working groups meet during the annual session of APRSAF.
   e. The working groups and the initiatives report to the plenary of APRSAF.
   f. Through its plenary, APRSAF may establish working groups and any other subsidiary bodies as necessary and may endorse the establishment of new initiatives.
   g. The initiatives endorsed and launched by APRSAF may establish their terms of reference and introduce any measures to organize their work as necessary and appropriate. The initiatives may also conduct their activities throughout the year and may hold their meetings in conjunction with the annual session of APRSAF.

2. **Membership**
   a. The participation in the meetings and other activities of APRSAF is open to agencies involved in space science, technology and its applications and governmental bodies, as well as companies, universities and research institutes,
3. **Chairmanship**
   a. APRSAF plenary meetings are presided by the general co-chairs, one from the host country of the upcoming annual session and the other from Japan.
   b. The co-chairs of the working groups, currently identified from Japan and the host country, are responsible for preparing the agendas and schedules of their meetings during the upcoming session of APRSAF, compiling the recommendations of the working groups to the plenary and reporting to the plenary on the results of their meetings and other activities.

4. **Co-organizers and their functions**
   a. The organizations that host the upcoming annual session of APRSAF concerned as well as the Ministry of Education, Culture, Sports, Science and Technology (MEXT) of Japan and the Japan Aerospace Exploration Agency (JAXA) serve as the co-organizers of the APRSAF session.
   b. The co-organizers are responsible for preparing and circulating the announcements of the upcoming APRSAF session, to provide programmatic and administrative as well as logistical information, and to make all arrangements that are necessary for convening the session.
   c. In principle, the co-organizers of the country where the annual session takes place bear the local cost incurred, including local staff, use of meeting facilities and equipment as well as local transportation for the participants.
   d. Co-organizers hold face-to-face meetings and teleconferences as well as exchange e-mails throughout the inter-sessional period to jointly prepare for the upcoming annual session.

5. **Secretariat functions**
   a. In consultations with the other co-organizers as necessary and appropriate, JAXA performs the functions of the standing secretariat of APRSAF, among other things, to support the co-chairs, to assist in the organization of the annual sessions, to disseminate information on APRSAF and to respond to any inquiries concerning the work of APRSAF.
   b. During the annual session of APRSAF, in cooperation with the other co-organizers, JAXA also provides secretariat services to support the [co-chairs (OR “chairs”))] of the plenary and working groups concerning the organization of their meetings and preparation of in-session documentation, including the compilation of recommendations for endorsement by APRSAF at its plenary.
c. Manager of JAXA International Relations Department serves as the Executive Secretary. The responsibilities of the Executive Secretary include issuing the announcements of APRSAF sessions that do not require approval of the general co-chairs, issuing invitation letters to speakers of the plenary and providing the oversight of the conduct of meetings during the annual session of APRSAF.

6. Decisions and agreements
   a. Any decision and agreement of APRSAF that affects its work and activities is reflected in the set of recommendations adopted in the plenary at the annual session.
   b. The recommendations of APRSAF also reflect the collective views of the participants of APRSAF session.
   c. APRSAF adopts its recommendations by consensus.

7. Official language
   English is the official language of APRSAF.

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Annex V: Establishment of an Executive Committee

At its second meeting, held on 28 and 29 August 2012, the Task Force agreed upon the establishment of an Executive Committee on the basis of the proposal submitted by Team A consisting of ANGKASA and JAXA, as below.

Membership of Team A:  Dr. Noordin Bin Ahmad (ANGKASA)*, Mr. C. Kawamoto (JAXA)
(* Team leader)

1. The functions and responsibilities of the Executive Committee shall be to:
   a. plan, monitor and promote program, through coordination of the APRSAF Annual meeting agenda and the inputs to the meeting, in upholding the principles of APRSAF;
   b. help accomplish general objectives and decisions of APRSAF, through provision of recommendations and the oversight over its operation.
   c. guide, facilitate, organize and provide directions to the APRSAF Working Groups and any APRSAF activities; and
   d. plan, discuss, review, propose and/or support proposals of new initiatives.

2. Membership of the Executive Committee and its officers
   A. The Executive Committee shall consist of
      a. 5 members from the host organizations of the past and future APRSAF annual sessions; and
      b. a representative from each Working Group.
   B. The nomination, approval and term of members of the Executive Committee and the election of its officers should be as follows:
      a. The term of the members should be two years unless otherwise agreed upon;
      b. The 5 member organizations as described in paragraph A(a) above should nominate any new members to join the Executive Committee and should be subsequently approved by APRSAF at its plenary session. Where possible, no more than one member organizations per country should serve on the Executive Committee.
      c. The Chair and Vice-Chair organizations of the Executive Committee shall be elected from among its member organizations as described in the paragraph A(a) above, and shall respectively serve their two-year terms.
d. The Chair and Vice-Chair organizations may be re-elected, but shall not serve more than two consecutive terms in the same office.

e. Any replacement or change of a member organization before the end of its term shall be approved by the Executive Committee, taken into consideration the proposal to be made by the member organization leaving the Executive Committee.

Any APRSAF participating organization that is not a member of the Executive Committee may participate in any meeting of the Executive Committee as observer upon approval by the Executive Committee.
Annex VI: Guidelines for initiatives

At its second meeting, held on 28 and 29 August 2012, the Task Force agreed to establish guidelines for initiatives on the basis of the proposal submitted by Team B, consisting of JAXA, LAPAN and STI/VAST, as below.

Membership of Team B: Mr. C. Kawamoto (JAXA)*, Ms. Ratih Dewanti Dimyati (LAPAN), Prof. Doan Minh Chung (STI/VAST) (* Team leader)

1. Introduction: Definition of the Initiatives, and the relationship between the APRSAF and the Initiatives:

An Initiative is a project that is launched from the Asia Pacific Regional Space Agency Forum, hereinafter referred to as “APRSAF”, the home port for any Initiative. While APRSAF is a forum, or a conference, whose main activity has been to discuss issues of importance to the region and responsibilities of participants are not defined, an initiative, as a project, requires defining membership, their roles and responsibilities to implement the project. To define those elements and govern the project activities, the Initiative needs to develop Terms of Reference (TOR). The Initiative is to be performed among such defined members pursuant to the TOR, to report on the progress every year to the APRSAF Annual meeting, as APRSAF is its home port, and to submit a final report to APRSAF when the particular project is completed. For the same reason, the Initiative may come back to APRSAF for assistance and advice when something beyond the power of the Initiative happens. The Initiatives are, therefore, undertaken under the umbrella of APRSAF.

2. Guidelines for the Initiatives:

Since an Initiative is a project to be launched from APRSAF, it should 1) address issues of common interest to the region (e.g. disaster management, sea monitoring and coastal area observation); 2) meet the societal needs of the region; 3) share the results in the region; and 4) involve the regional (not bilateral) collaborative efforts, all of which serve as the general Guidelines for the Initiative. Although there may be some thoughts that the SAFE and the newly established Kibo-ABC Initiatives seem not to meet some of those general Guidelines, as those Initiatives are undertaken in a way to aggregate bilateral cooperation, they are, nonetheless eligible enough as APRSAF Initiatives the opportunities for participation are fully open to all of the APRSAF participating organizations and general results therefrom should be shared in the region through the workshops. The specific Guidelines,
therefore, vary based on characteristics of each Initiatives, and shall be developed in the future based on the practices to be compiled, in order to realize the purpose of the APRSAF.

3. Procedure for the Initiatives (see appendix 2):

The proposals of the Initiatives have been and are normally developed through working groups. To come up with new initiatives, the working groups, therefore, should internally discuss to develop proposals and/or more intensively look into and extract ideas from, the country reports presented at the annual APRSAF plenary and working group meetings. It is also welcome if an APRSAF participating organization outside of the working groups makes a new proposal of an Initiative, even if the organization does not have technical skills or funds to support the proposed Initiative. Such a proposal, which meets the general Guidelines as referred above, should be submitted using the standard proposal outline format as attached hereto (as an example), to the working group that is most closely related to its content, or to the Executive Committee when there is no appropriate working group for review. The Secretariat of the APRSAF should then support the organization. The working group and the Executive Committee may require the participation of the proposing organization in their meetings when necessary. After its review, the working group should submit the proposal to the Executive Committee together with the working group’s comments for review by the Executive Committee. The working group or the Executive Committee may request the author organization for improvement of its proposal or give advice with explanations when the proposal does not meet the general Guidelines of the Initiatives. The Executive Committee should then review the proposal and provide its comments, to be submitted for authorization by the APRSAF Annual meeting. The Executive Committee by itself may also consider and propose new Initiatives to the Annual meeting for its authorization.

Although an Initiative is a project and, therefore, its results should be shared among the members participating in the project, the general results of the Initiative which may be useful for the region should be recommended to be shared at scientific workshops to be organized by the Initiative or APRSAF. Consideration could also be given to providing training opportunities within the framework of each Initiative.
Appendix 1: Format of Initiative Proposal

1. Title :
2. Theme :
3. Background of the Activity :
4. Objective of the Activity :
5. Target of the Activity :
6. Outcome/Estimated Benefits :
7. Venue and Time of the Activity :
8. Participant :
9. Executing Agency and Contact Point(s) :
10. Participating Agencies and their Contact Points :
11. Financial Arrangement/Support Resources :
12. Activity Time Frame :
13. Expected operational Plan :
14. Matters to be considered :
Appendix 2: Procedure for the Initiatives

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*1 Support from the Secretariat of AFRSAF
*2 Request for improvement or advice with reasons
Annex VII: Long-Term Vision of APRSAF

The Task Force, at its second meeting, held on 28 and 29 August 2012, agreed on a set of elements to be included in the long-term vision for further development and refinement in an Executive Committee to be established, based on the proposal submitted by Team C, consisting of DIISRTE, GISTDA and SSTA, as provided below.

Membership of Team C: Dr. M. Green (DIISRTE)*, Dr. Darasri Dowreang (GISTDA), Mr. J. Hung (SSTA) (* Team leader)

Current status
APRSAF was established in 1993, following the declaration by the Asia-Pacific International Space Year Conference, held in Tokyo, Japan in November 1992, to enhance space activities in the Asia-Pacific region. While APRSAF during its initial period focused on the exchange of information and views on the space activities carried out by the space agencies and space-related institutions in the region, starting from its session in 2005, APRSAF began to launch multilateral projects, known as “Initiatives”, to carry out collaborative activities with the aim of providing space solutions to address issues of common concern in the region. Since then, APRSAF has become an action-oriented entity, while providing an open and flexible framework for cooperation.

Possible options
Establish APRSAF as a practical mechanism for regional engagement on space issues, and achieve recognition for this role with the appropriate international stakeholders. This could include:

(a) Serving as a regional coordination and advocacy body in relation to selected international activities of interest to APRSAF participating organizations, including initiatives of GEO, CEOS, International Committee on GNSS, UN COPUOS.

(b) Serving as the recognised space data coordination forum in support of common regional activities through intergovernmental bodies such as ASEAN and APEC.

To serve this role, APRSAF must be a forum through which an Asia-Pacific perspective on relevant space issues can be developed and through which it can be articulated.
APRSAF and Regional Representation in International Bodies

The emphasis should be on practical activities of direct benefit to APRSAF participating countries (suggesting a focus on satellite applications) and in ensuring that Asia-Pacific issues and identity are well represented in global initiatives that involve space-related matters and that benefits for the region are optimised. The relationship of Sentinel Asia with the International Charter on Major Disasters is suggested as a possible model for how an APRSAF-led regional coordination effort might interface with and provide mutual support for an equivalent international initiative.

Relationships with and recognition by the appropriate international bodies would be case by case but could include:

(a) APRSAF could seek Associate status with CEOS and Participating Organisation status with GEO;
(b) representation on the UN International Committee on GNSS
(c) observer status of the UN Committee on the Peaceful Uses of Outer Space (COPUOS);
(d) APRSAF could seek formal status within a non-government space cooperation organization, such as the International Astronautical Federation.
(e) APRSAF could seek to participate in independent global organizations, such as the DAVOS World Economic Forum or the International Astronautical Federation. For example, APRSAF could become a member of DAVOS WEF Global Agenda Councils.

There are international bodies which have more practical impact and emphasis than UN COPUOS – specific to each satellite application domain, including observations, navigation, and communication. These include CEOS, GEO and others – and APRSAF could establish a useful and valid role in promoting regional needs and outcomes from the main initiatives of these bodies and in coordinating the main data suppliers and users from within the region. This would include establishing improved regional coordination around programmes such as the Global Forest Observations Initiative (GFOI) and GEO-GLAM (Global Agricultural Monitoring) – in which many APRSAF countries are active participants. Helping APRSAF participating countries find common interests in such activities, and assisting them coordinate to be more influential in shaping decisions to the benefit of the Asia-Pacific region, could be a useful role for APRSAF.
Asian governments and their space agencies are increasingly becoming players and investors in the space segment with a large number of EO, GNSS, and communications missions being planned and operated. There is a growing need for better coordination of the outputs of these spacecraft for the common benefit of societies in the region and in support of established common initiatives – better organising themselves such that they participate more effectively in international programmes and get more from them for the region of Asia and the Pacific.

APRSAF has the heritage and participants to take on this challenge. APRSAF can rightly claim the longest heritage of coordination experience in the region in this domain and the most comprehensive set of participant engagements consistent with the proposed goals.

**Is space a coordinating agenda?**

Does ‘space’ constitute an agenda that forms a coherent community of interest relevant to the work of other bodies? Regional cooperation mechanisms in particular appear more naturally to focus on policy and program domain areas of interest, such as agriculture, or emergency management, information technology, etc. While space is relevant to, and contributes to, many of these, it is not clear that ‘space’ itself provides a coherent cross-cutting agenda. Nevertheless, as space technologies, systems and capabilities are relevant to many (if not all) of the groups of interest, there is value in the key agencies involved in space getting together to share information and undertake projects of common interest in support of more policy-directed activities. For example, it is appropriate that space agencies consider how, individually, in partnership or collectively, they can contribute to areas of enduring interest (such as weather and climate prediction, agriculture and land-use management, and emergency response), and to areas of emerging interest. Thus, it is worthwhile to have a regional forum of space agencies such as APRSAF, which can share information, and can provide a framework for the conduct of activities and projects of mutual interest.

**Substantive regional cooperative projects**

One of the ambitions for APRSAF is to have conclusive projects that span participating countries in the region. APRSAF has Sentinel Asia, SAFE (Space Applications For Environment), Climate R3 (Regional Readiness Review for Key Climate Missions) and Kibo-ABC (Asian Beneficial Collaboration through “Kibo” Utilization), and its working
groups (EO, CSA, SEA, SEU) have a variety of initiatives. However, true multi-national collaboration is relatively rare and thin. Looking ahead, APRSAF could aim to launch a substantive ‘capstone’ regional cooperative project perhaps every 3-5 years. Such ‘capstone’ projects would need to be ones APRSAF participating organisations would be keen to take back to their respective governments, agencies, industries and research and scientific communities, secure commitments to dedicate resources to drive it, and execute them within a reasonable time frame.

The regional cooperative projects should be impactful enough to be recognised globally. It will be a first, sustainable Asia Pacific initiative that binds Asia Pacific participating space states in common interests, coordinated by APRSAF. It will test the resolve of space data providers in the region to overcome competitive interests for the sake of common needs. These needs must be chosen carefully such that they represent compelling appeal to the main space agencies within APRSAF.

This could be the basis for all the APRSAF working groups in the years ahead. Many times, a lot of excellent ideas are discussed, but the reality is that without a strong steering team to drive them and genuinely collaborative support and resources from multiple governments, including the main space system operators in the region, real progress is not possible.

**Participating Organisations**

APRSAF’s core participants are space agencies and space-related institutions in the region. In addition, a range of organisations, companies and individuals attend APRSAF meetings. Together, these constitute APRSAF ‘participating organisations’.

APRSAF decision-making has been through consensus of participating organisations at the annual APRSAF meeting. This has been effective to date.

Participating organisations do not have formal responsibilities, however there is an expectation that they participate in APRSAF meetings, share relevant information and be open to participating in relevant APRSAF activities. APRSAF activities are undertaken by willing participants, with any obligations and responsibilities in respect of activities defined by appropriate activity-level agreements where required.
A more formal approach would see APRSAF being formally constituted as some kind of international organisation or body, with some kind of document such as a Memorandum of Understanding or a Treaty setting out a range of matters, including around membership and decision-making and responsibilities, to name a few. This approach risks burdening APRSAF with an administrative and legal apparatus that is too onerous and cumbersome. Many APRSAF meetings could be given over to discussing and negotiating such a document, to little obvious benefit. Such an approach would, however, probably be required if there is a consensus that responsibilities of members extend to financial commitments to APRSAF or to an agreed set of APRSAF activities.

It seems appropriate for the current and foreseeable future that APRSAF continue as a relatively informally constituted regional space cooperation forum open to a wide range of participating organisations – that is, without a formal Memorandum of Understanding or Treaty – but that, consistent with the work of this Task Force, a range of policies and practices around APRSAF which have developed over time be made more explicit though being more clearly articulated and documented.

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Annex VIII: Short-Term Actions to Improve the Organization and Operation of APRSAF

The Task Force, at its second meeting held on 28 and 29 August 2012, agreed upon a set of actions that should be undertaken in the near future to improve the organization and operation of APRSAF based on the proposal submitted by Team D, consisting of KARI and CRISP, as provided below.

Membership of Team C: Mr. Chang-ho Lim (KARI)*, Mr. Kwoh Leong Keong (CRISP) (* Team leader)

1. Early determination of the venue of the annual session (two sessions in advance)
   a. If possible, a list of logistical requirements, i.e. items needed for hosting the annual session, could be sent out by the secretariat at early stage to any interested country for its budgetary planning. This list should be considered to provide only a general guideline which can be modified to suit the host country.
   b. To date, the venue of the annual session has been decided a year in advance. Thus, on some occasions, there is not enough time to prepare for the annual session. If provisional host countries for the annual session are decided two sessions in advance, the host countries would have much more time for their preparations.
   c. It is proposed that a list of potential candidates for host countries be established by the secretariat.

2. Alternative ways of identifying chairs of the working groups
   a. To date, the host countries have identified the co-chairs of the working groups locally. One alternative to explore is to encourage experts from other countries rather than the host country to volunteer their service as co-chairs (probably for no more than two APRSAF sessions in a row).

3. Possibilities of creating additional working groups
   a. Interested individuals or groups could submit a formal proposal for forming new working groups. This would be subject to approval by APRSAF as a whole. A list of criteria for forming new working groups could be formulated by an Executive Committee to be established. Such list of criteria could be then distributed upon request by any interested individuals or groups.
4. Annual selection of an organization or people for awards to recognize their active participation in or contribution to APRSAF.
   a. In order to promote further growth of APRSAF and to motivate participants, it would help to select an organization or people annually to receive awards. For this purpose, at first, a nomination committee should be established composed of APRSAF participating organizations. Any APRSAF participating organizations could nominate candidates for awards.
   b. The organization or the group of individuals to receive the award of the year should be decided by an Executive Committee to be established. On special occasions, the Executive Committee may select more than one organizations or groups to receive second awards.

5. Invitation of a famous researcher or a experienced and high-skilled person to deliver a lecture to share of his/her idea and experience.
   a. The host country or organization can invite an expert or famous researcher to provide a lecture or keynote address.

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