**FORUM:** Environment Commission

**QUESTION OF:** Addressing the environmental damage caused by the increasing number of satellites in Earth's orbit

**MAIN SUBMITTER:** Federative Republic of Brazil

**CO-SUBMITTER:** Commonwealth of Australia, the Republic of Indonesia, the Russian Federation, Ukraine

The Environment Commission,

*Recognizing* that there are more than 7,500 satellites orbiting Earth and from these satellites 5,500 are active, all satellites have a life expectancy of 5 to 10 years and after this they become space debris,

*Noting* the increasing number of satellites in Earth's orbit, collisions are made, creating space debris which would clutter their orbit and endanger anything passing through it,

*Aware of* the environmental hazards of this space debris are myriad, including light pollution that could hamper future scientific discoveries,

*Emphasizing* that United Nations Office for Outer Space Affairs (UNOOSA) had taken steps of actions removing obsolete spacecraft or fragments of spacecraft from satellites, Active Debris Removal (ADR), General Assembly has reached many guidelines and resolutions on the topic of space debris and sustainable development goals in relation to space and space debris,

*Reiterating* the commitments made on Space Debris Mitigation for European Space Agency (ESA) Projects, which defines a minimum set of requirements for the limitation of space debris,

*Further emphasizing* the crucial role of international cooperation and support towards reducing satellite proliferation,

1. *Further requests* member states to go further by developing a treaty provided Brazil, The Russian Federation, the commonwealth of Australia, Indonesia, Ukraine that can be followed by all member states included but not limited to:
2. encouraging member states and the United Nations (UN) to abolish The Outer Space Treaty signed in 1967 to ensure that no content of this treaty will interfere with the content of this resolution in a negative way,
3. setting guidelines and certain requirements that businesses and commercials should follow before launching the satellites,
4. being enforced such as setting penalties if not following the treaties, everyone currently in space needs to follow the Universal Declaration of Human Rights since they are still technically in this Universe and if this is broken then International Space Strike Force (ISSF) will sanction according to their decision and the Space Mission Security Council’s (SMSC) decision,
5. stop the rapid growth in the number of satellites and minimize the environmental damage that satellites can bring to the Earth,
6. forbidding the launch of anything to space without the permission of the ISSF and the SMSC for the purpose of:
7. limiting space debris,
8. limiting the amount of light pollution,
9. limiting the amount of Hazardous chemicals satellites produce,
10. forbidding the launch of any commercial satellite,
11. nothing that goes up into space should be used for any purpose of harm whether it is a satellite or space station;
12. *Urges* UN member states and the UN to raise public awareness to educate and to address the issue of environmental damage caused by increasing number of satellites in the Earth's Orbit in ways including not limited to:
13. mass-media including but not limited to:
14. YouTube,
15. Instagram,
16. Snapchat,
17. Twitter,
18. Facebook,

b. presenting a real case that evidences values

c. educating in places including but not limited to:

1. elementary school,
2. middle school,
3. high school,
4. university,
5. college,
6. workplace;
7. *Recommends*the collaboration between member states and international space agencies such as National Aeronautics and Space Administration (NASA), European Space Agency (ESA) and Asian-Pacific Regional Space Agency Forum (APRSAF) for reasons including but not limited to:
8. control the number of satellites sent into space yearly by any organization or body,
9. only putting up satellites that enhance good global causes and not ones that benefit individual countries these worthy causes might include:
10. warning of forest fires,
11. geological research and monitoring,
12. monitoring industrial sites,
13. collecting agricultural data,
14. limiting the number of satellites individual companies such as Space X launch for reasons including but not limited to:
15. them being launched for a purpose that is not worthy of launching,
16. the space debris will not be correctly taken care of,
17. environmental factors outweigh monetary factors.
18. making international guidelines that enforce the everything said in this resolution to ensure that no satellite is being launched for no purpose;
19. consider the creation of a new council called Space Mission of Security Council (SMSC) inside the UN with the help of international space agencies such as NASA, ESA and APRASAF in order to,
20. evaluate the usefulness of satellites for the good global causes,
21. limit the number of satellites launched yearly,
22. help with the planning on how to extract dead satellites;
23. increasing restrictions to limit earth observation companies to cooperate with national launching programmed through ways listed but not limited to the following:
24. sustainable materials used on the body of satellites,
25. stricter inspection on the purpose of launching;
26. setting guidelines and quantity limits for personal enterprises that can launch satellites independently including but not limited to:
27. SpaceX,
28. Blue Origin,
29. Virgin Galactic;
30. *Strongly Encourages*to find better more sustainable ways to accomplish things that would normally be done by a satellite including but not limited to:
31. warning of forest fire,
32. monitoring of industrial sites,
33. monitoring geological phenomenon's such as hurricanes,
34. spying
35. collecting data on agriculture;
36. *Recommends* the creation of the International Space Strike Force (ISSF) for purposes including but not limited to:
37. sanctioning member states and companies who violate the guidelines made in clause 2 in ways including but not limited to:
38. fines ranging from 500€ to 500 000€,
39. booting them from the council in case of a member state,
40. taking the rights for free trade from a member state or a company,
41. overseeing the disposing of satellites and debris that they make while the satellite is being launched, during its mission and after it has died,
42. in charge of confiscating satellites that have not been authorized to launch;
43. *Encourages*international organizations including the UNOOSA, ESA, and other relevant organizations, to foster their cooperation and partnership in the area of space debris, including:
44. end of life disposals for satellites need to be guaranteed, through methods including but not limited to:
45. passivation,
46. D4D program,
47. remove space junk off from the orbital track to lower its collision risk with active satellites through either:
48. nudging objects into the atmosphere,
49. pushing objects to less congested orbits,
50. modify satellites to alter their functionality, including methods including but not limited to:
51. lower the melting points of the joints of the satellites, using materials such as aluminum alloys, to allow structures to disintegrate before reaching earth,
52. referring to Tiago Soares’s design, satellite's outside panels would unfold like flower petals before re-entry, an increased stressed face cause structure to be more breakable,
53. improve shielding and overall resilience of spacecraft surfaces,
54. design additional devices for improved tracking, maneuvering, and remediation,
55. reduce and prevent space debris formation, through ways including but not limited to:
56. the use of orbital regimes with less debris,
57. maneuvering to avoid debris collision,
58. avoiding unnecessary release of waste,
59. promoting the exchange of best practices, knowledge, and expertise,
60. mobilize resources during emergent incident,
61. strengthening the support from the international community,
62. encouraging the development of new technologies and techniques for the mitigation and removal of space debris, such as space-based sensors, autonomous debris removal systems, and innovative materials for spacecraft design;
63. *Asks*the UN member states and the UNOOSA to focus primarily on More Economically Developed Countries (MEDC) rather than Less Economically Developed Countries (LEDC) as MEDC is the country that launches most of its satellites into outer space such as the United States of America and Russian Federation include but not limited to;
64. a treaty that can be followed by all member states that includes but not limiting to:
65. limiting the number of commercial satellites
66. setting guidelines and certain requirements that should be followed by businesses and commercials before launching;
67. management of individual satellites by:
68. removing satellites that are no longer valuable and in use
69. the belonging of the satellites, which satellites belongs to who;
70. setting limitations on waste that can be expelled into space including:
71. human-made objects left in orbit
72. fragments from their disintegration, collisions or even paint flecks
73. solidified liquids expelled from spacecraft
74. unburned particles from solid rocket motors;
75. Encourages the MEDCs cooperate and financially support the space agencies such as, NASA, ESA and the United Nations to:
76. investigate space technologies that could remove satellites most critical objects would be removed in the low Earth orbit to reduce the possibilities of collisions by selecting targets based on mass, area, and cumulative collision risk
77. LEDCs can also support MEDCs' investigations and share findings through international conferences;
78. *Strongly recommends*UN and member states to do further research on the matter of satellites and the amount of harm one produces to the environment in order to:
79. get a better idea on how to counter the pollution a satellite produce’s,
80. get better ideas on how to prevent the satellites from polluting in ways including but not limited to:
81. making a more sustainable design on the satellites,
82. making a way to retrieve the satellite when it dies,
83. making the launch process more sustainable;
84. improve current space environment prediction system, including methods including but not limited to:
85. enhance empirical atmospheric density model
86. estimate air drag for orbital projections, and using it as a reference for preparatory work;
87. recognize areas for improvement in conjunction evaluations and collision prevention, through methods including but not limited to:
88. examine ways to increase the precision of sensor tracking measurements, broaden the orbital coverage of satellite tracking, particularly in the Southern Hemisphere
89. expand the current catalog of resident space objects to include parameters of the debris that are necessary for the design of debris remediation
90. examine how to use current systems to collect more satellite tracking data;
91. emphasize the needs of marginalized and vulnerable groups, such as women, children, and persons with disabilities, and ensuring their participation in decision-making processes;
92. improve current space environment prediction system, including methods but not limited to:
93. enhance empirical atmospheric density model
94. estimate air drag for orbital projections, and using it as a reference for preparatory work;
95. improve remediation of debris, through methods including but not limited to:
96. estimate cost for developing and carrying out debris remediation
97. advance new technology that makes cleanup and reuse possible
98. design a strategy for identifying risk measurement metrics to produce a range of potential risk mitigation and remediation strategies;
99. *Calls upon* all member states, international organizations, civil society, and the private sector to b:
    1. improving preparedness measures for unexpected return of space software in ways including but not limited to:
100. monitoring existing observatory and related specialists to detecting potential threats,
101. using emergency response mechanism,
102. transparent and up-to-date reports of space debris mitigation
103. regular conferences on progress space debris mitigation,
     1. informing the public about the hazardous damage of satellite’s unexpected entry and appropriate responses by:
104. holding emergency evacuations for space debris collapsing in public areas.